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ECONOMIC AND INDUSTRIAL AFFAIRS

No. 2148



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CONTENTS

INTERNATIONAL AFFAIRS

- Yugoslav-Hungarian Plan To Produce Computers
(D. Todorovic; OSLOGODJENJE, 21 Apr 81) 1

ALBANIA

- Central Committee Issues Directives for Congress
(ZERI I POPULLIT, 19 Jun 81) 3

GERMAN DEMOCRATIC REPUBLIC

- Illegal Practices Suspected in Inner-German Trade
(DER SPIEGEL, 11 May 81) 21
- Crop, Weather Report Published for April 1981
(D. Krumbiegel; FELDWIRTSCHAFT, Jun 81) 24

ROMANIA

- Research Plans for Agricultural Zootechnical Sectors
(Nicolae Giosan; REVISTA ECONOMICA, 15, 22 May 81) 27
- Fodder Supply, Keystone of Zootechnical Progress
(Alexandru Ignat; REVISTA ECONOMICA, 22 May 81) 37
- More Economical Production of Electricity, Heat Sought
(Ioan Munteanu; REVISTA ECONOMICA, 22 May 81) 43
- Briefs
Bistra Area Worker Mutual Assistance 48

YUGOSLAVIA

Lack of Foreign Exchange Lowers Oil Imports (PRIVREDNI PREGLED, 4 Jun 81)	49
Automobile Production Increase Planned (PRIVREDNI PREGLED, 29 May 81)	51
Kosovo Transportation Plans to 1985 (M. Delibasic; PRIVREDNI PREGLED, 12 Jan 81)	52
Sarajevo-U.S. Firms Cooperate on Environmental Project (OSLOBODJENJE, 30 May 81)	54
Export of Livestock and Livestock Products in 1981 (Miodrag Filipovic; PRIVREDNI PREGLED, 12 Jun 81)	55

YUGOSLAV-HUNGARIAN PLAN TO PRODUCE COMPUTERS

Sarajevo OSLOGODJENJE in Serbo-Croatian 21 Apr 81 p 7

[Article by D. Todorovic: "Domestic Computers Coming Soon"]

[Text] An important conference organized by the basic community of ERA ("Electronics--Computer Engineering--Automation") was recently held in Novi Sad on production of computers in our country, in Vojvodina to be exact. This conference was attended not only by representatives of the Vojvodina Executive Council and Provincial Council for Information, but also by representatives of the prestigious Hungarian firm Videoton, one of the largest European manufacturers of computer equipment, with which a contract has been concluded on cooperation in the production of computers in Yugoslavia.

Though it is a relatively young industry that began its robust development some 20 years ago, its inroads into contemporary life, the workplace and industry, has rightly been described as revolutionary. After all, there are few industries which have so quickly, with almost lightning speed, taken such a high place in the industrial world as computers have done. Perhaps many people are not aware of the fact, but data processing (the term refers to complete computer systems) is today the world's third strongest industry, immediately following the fuel and power industry and the motor vehicle industry.

Data processing is also in wide use in our country. There are various computers in use from numerous manufacturers, mainly from the industrially advanced countries from which we have imported and are still importing these blessings of contemporary science whose value is inestimable, paying large amounts of foreign exchange for them.

It was confirmed here that we will soon have our own computers. That is, a contract was signed last year between Videoton of Hungary and the work organizations Novkabl of Novi Sad and Sever of Subotica on a cooperative arrangement. This contract is now awaiting approval; it calls for production of the first domestic computers, which will have a very wide application, to begin soon at Sever and Novkabl. More precisely, Novkabl of Novi Sad will produce computers for collection and primary processing of data, while Sever of Subotica will produce processing terminals.

Both types of equipment will have very wide use. The value of total output in the first year is to reach 20 million dinars.

The contract with the Hungarian firm Videoton is our first contract on cooperation with a foreign firm on a one-to-one basis: Hungarian specialists will make it possible for our manufacturers to use their know-how, which is very great, since Videoton is one of the best-known European computer manufacturers.

It is expected that the computer hardware production program will be expanded considerably in the very near future, which will help to free us from importing these machines.

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CENTRAL COMMITTEE ISSUES DIRECTIVES FOR CONGRESS

AU282101 Tirana ZERI I POPULLIT in Albanian 19 Jun 81 pp 1-3

["Draft Directives for the Eighth AWP Congress on the Seventh 5-Year Plan (1981-85) for the Development of the Economy and Culture of the People's Socialist Republic of Albania"--issued by the AWP Central Committee]

[Text] The sixth 5-year period 1976-80 was another glorious period in our party's and people's struggle to consolidate the socioeconomic order and defense of the People's Socialist Republic of Albania, to raise the material and cultural well-being of the people and to temper the socialist awareness of our new man. During this period the production forces were further developed and the social product assumed larger dimensions, socialist production relations were improved, culture and education were raised to a higher level and the technical-scientific revolution was deepened.

The great victories attained during the past 5-year period in all fields of life constitute undeniable proof of the superiority and vitality of our socialist order. These victories are based on the party's correct Marxist-Leninist line and are a result of the conscious and untiring effort of the working masses in the cities and in the countryside to implement the historic decisions of the Seventh AWP Congress.

These victories were achieved in particular and very difficult circumstances arising from the fierce imperialist-revisionist blockade and encirclement, the difficulties created by the hostile and undermining activity of the Chinese revisionists against our country, the exacerbation of the class struggle in the international arena and the deepening of the world economic crisis. The titanic struggle of our party and people resulted in the shameful failure of all attempts by the enemies to obstruct and divert us from the path of building socialism.

The steel-like and unbreakable unity between the party and the people was further strengthened in this struggle and our country and economy emerged stronger than ever. At a time when the bourgeois and revisionist capitalist economy is sinking more than ever in the morass of contradictions and crises, our economy has constantly increased its stability and has created strong foundations to progress more rapidly, relying entirely on our own efforts.

The struggle against imperialism and modern revisionism, the unwavering defense of Marxism-Leninism against the attacks and distortions of the bourgeoisie and all trends of opportunism and revisionism, the resolute support given by our party and people to the struggle of the peoples for freedom and independence and the constant

unmasking of the warmongering policy of the two superpowers, U.S. imperialism and Soviet socialist imperialism, as well as of the Chinese revisionists, have further raised the authority and strengthened the international position of Socialist Albania. Our country has become a source of inspiration to the peoples aspiring to and fighting for freedom and socialism.

I. The Fulfillment of the Major Tasks of the Sixth 5-Year Plan (1976-80) for the Development of the Economy and Culture

During the 5-year period that has elapsed our country's economy and culture were raised to a new and higher stage of development. The volume of production was further increased and considerable improvements were made in the structure of social production through better utilization of all political, ideological, economic and organizational factors.

Although the Chinese revisionists cut off credits and other economic relations with our country on which the achievement of some important achievements of the sixth 5-year period was based, the party saw fit not to revise the directives of the Seventh AWP Congress for the Sixth 5-Year Plan. On the contrary, calling on all the people, the party mobilized and guided the working masses in fulfilling the major tasks of the state plan.

As a result of the measures adopted to continue the construction of those projects left unfinished and sabotaged by the Chinese revisionists, relying entirely on our own efforts and without any aid or credits from outside, during the years 1979-80 our economy developed more rapidly than during the period 1976-78. During the last 2 years of the 5-year period the social product increased by an average of 4.9 percent, compared with an average of 4.2 percent during the period 1976-78, while the average annual increase in industrial production as a whole was 17 percent higher.

The overall social product in 1980 was 24.4 percent higher than in 1975 or twice as high as the population growth.

Consistently implementing the party's economic policy to deepen the country's socialist industrialization, the role of industry as a leading sector of the economy was further raised, better utilizing the country's natural wealth, raising the degree of processing these natural resources domestically and developing new branches of the economy. The overall industrial output increased at an average annual rate of 6.1 percent during the past 5-year period. New industrial branches were created, such as ferrous metallurgy, intensive processing of oil, the ferro-chrome industry and so forth, and the material and technical base of the existing branches of the extractive and processing industry was enlarged.

The various branches concerned with the production of the means of production were given priority during the past 5-year period. In 1980, the proportion of group A in the country's overall industrial production reached 64 percent, compared to 56.8 percent in 1975. The power industry was further strengthened, increasingly better meeting the country's growing needs and becoming an important source of increased exports. Considerable successes were achieved in discovering new oil and gas-bearing fields, which increased our industrial reserves. Coal extraction in 1980 increased 63 percent, compared with 1975, and the output of electricity from our hydroelectric powerplants trebled.

The engineering industry developed rapidly and achieved its major task of meeting 95 percent of our country's needs for spare parts. Considerable progress was made in increasing the production of machinery and equipment. The industrial production of this branch in 1980 was 57.7 percent higher than in 1975. Visible progress was also made in all other branches of the heavy extractive and processing industry, such as the chrome industry, the copper industry, the chemical industry, the construction materials industry, the paper and timber industry and so forth.

The production of consumer goods was also further developed during the past 5-year period. For many of the major products of light industry and the food industry the average annual rate of increase ranged between 2.2 times and 7.5 times higher than the annual population growth rate.

During the sixth 5-year period our socialist agriculture progressed further on the basis of intensifying production in its various branches. For the 5 years taken together, compared with the fifth 5-year period, agricultural production increased 21.4 percent. The cooperative members and other working people in the agricultural sector consolidated the great victory of meeting all the needs of the economy and of the people for bread grains from domestic production. This, together with the increases in other agricultural and livestock products, further raised the role of our socialist agriculture in the country's independent development, better meeting the needs of the people, and of industry and export.

These achievements were also a result of further strengthening the material and technical base of agriculture. In addition to the increased number of tractors and other agricultural machinery, the area under irrigation was increased by nearly 40,000 hectares and the production of chemical fertilizers in 1980 increased 50 percent, compared with 1975. Considerable progress was also made in the rational utilization of the material and technical base and in applying advanced techniques and technologies to increase soil fertility and improve livestock husbandry.

The volume of investments effected for the development of the economy and culture during the sixth 5-year period was 15 percent higher than in the previous 5-year period. A number of important economic and socio-cultural projects were completed and commissioned, thus further strengthening the material and technical base of the economy as a whole, as well as of particular branches, particularly industry and agriculture.

Other branches of the economy and culture were also further developed. The volume of transportation of goods during the 5-year period increased 30 percent, better meeting the needs of the economy for the timely movement of various goods.

As a result of the measures adopted, our foreign trade overcame the difficulties and obstructions created by the severance of economic relations with our country by the Chinese revisionists, gained new markets for our exports and generally increased the volume of our trade.

All these achievements constitute considerable progress on the road of transforming Albania into an industrial-agrarian country.

As a result of the party's solicitude and the measures adopted, the living standard of the working masses was maintained and further improved. The real per capita income of the population was further raised, its purchasing power increased and our socialist trade was able to better meet the needs of the people for consumer goods with regard to quantity, structure and quality. The communal service sectors also grew rapidly. At a time when inflation, the unchecked increase in prices, unemployment and other negative phenomena are affecting the standard of living of the working masses in the capitalist and revisionist countries, in our country taxes and tariffs have long since been abolished, the prices of goods and services have remained stable and rents are extremely low. There is no inflation, unemployment and economic emigration in our country.

Socialist education and culture were further developed and their role in the party's overall effort in the communist education of the working masses was further raised. Nearly 20,000 higher cadres graduated, that is, 57 percent more than during the fifth 5-year period. The quality of the training of specialists in higher schools and of skilled workers and other specialists in the secondary schools was further raised.

Progress was also achieved in the health service and in protecting and improving the health of the people. The standard of hygiene in the cities, the countryside and in work and production centers was further raised and achievements were made in protecting the environment against pollution.

The successes attained in the development of the economy and culture and the comprehensive struggle waged to establish a strict regimen of thrift everywhere have further consolidated the country's finances and the purchasing power of the currency. The state budget has continuously financed the growing expenditure for the development of the economy, the social and cultural sectors and the strengthening of the country's defense potential.

Socialist production relations were further improved in accordance with the directives of the Seventh AWP Congress in a revolutionary way. The measures adopted to constantly consolidate socialist property, the improvement of the methods of remuneration on the basis of the socialist principle in accordance with the quantity and quality of the work performed, the support given to revolutionary initiatives, particularly in herding together the personal livestock of cooperative members, and the improvements made in the scientific and planned management of the economy, were factors of considerable importance in furthering the progress of the economy and culture and in building socialism in our country.

The constant development and deepening of the technical and scientific revolution, by successfully resolving a number of problems related to the development of the economy and culture and the strengthening of the country's defense potential, has made a valuable contribution to the country's general progress in the direction of fully building the socialist society.

On the basis of the aforementioned achievements in all spheres of our country's socioeconomic activity, the AWP Central Committee has reached the conclusion that the fundamental task stipulated by the Seventh AWP Congress for the sixth 5-year period has been successfully fulfilled.

On the basis of these achievements, and of the human, material and financial resources that our country has available and that will increase in the future; on the basis of the studies carried out to develop the various sectors and branches of material production and the social and cultural sectors, and on the basis of the discussion and examination of the draft plan for the seventh 5-year period by the working collectives in the cities and in the countryside, the AWP Central Committee has approved the directives of the Eighth AWP Congress for the seventh 5-year period (1981-85) for the development of the economy and culture of the People's Socialist Republic of Albania.

II. The Major Directions and Tasks for the Development of the Economy and Culture in the Seventh 5-Year Plan (1981-85)

Guided by the party's general line and relying on the revolutionary enthusiasm and lofty patriotism of the people, on the material and technical base that has been created to date and on socialist production relations, the 10th AWP Central Committee Plenum stipulates the following to be the fundamental tasks in the directives of the Eighth Congress for the Seventh 5-Year Plan: "The comprehensive development of the economy relying entirely on our own efforts on the basis of deepening the country's socialist industrialization, consolidating and intensifying agriculture, increasing the effectiveness of the economy, developing the technical-scientific revolution and improving socialist production relations in order to secure and gradually raise the material well-being and cultural standard of the working masses and to further strengthen socialist order and the defense potential of the country."

This task is to be achieved:

Through the rapid development of industry to ensure continuation in building a complex and multibranched industry, by consolidating the existing branches and building new ones, by giving priority to the growth of the heavy extractive and processing industry--primarily the power industry, the mining and processing industry and the engineering industry--as well as by developing the production of consumer goods in accordance with the needs of the people and of the economy and by improving their quality and structure;

Through the rapid progress and intensification of agricultural products, by introducing and widely applying achievements in science and advanced experience in order to constantly raise the production of bread grains and to rapidly increase the production of all other agricultural and livestock products to better meet the needs of the people, the economy and defense with these products;

Through the further elevation of the effectiveness of the social product and the utilization of the national income, particularly investments and capital construction, by strengthening the regimen of thrift and profitability in the branches of material production and in the social and cultural sectors;

Through the general advancement of sciences and the deepening of the technical-scientific revolution, further raising their role in the development and widespread application of advanced technology and in resolving the socioeconomic problems of the country's socialist construction;

Through the constant consolidation of socialist ownership, particularly in the countryside, improvement in the methods of remuneration, strengthening the scientific nature of the planned organization and management of the economy and culture on the basis of the principle of democratic centralism and improving the organizational structures in accordance with development needs.

The major indicators for the development of the economy during the seventh 5-year period (1981-85) are to grow as follows:

(in percentages for 1985, compared to 1980)

Overall social production	32-34
Overall industrial production	34-36
Overall agricultural production (in the seventh 5-year period, compared to the sixth 5-year period, for the 5 years taken together)	31-33
Capital investments (in the seventh 5-year period, compared to the sixth 5-year period, for the 5 years taken together)	23-25
Transportation of commodities altogether (in millions of tons/kilometers)	36-38
Social labor productivity	12-13
Labor productivity in industry	13-15
Labor productivity in construction	14-16
National incomes	33-35
Real incomes per capital of the population	8-10
Overall financial incomes	34-36

The tasks stipulated for the Seventh 5-Year Plan, which the party is submitting to the working masses for broad popular discussions, are more magnificent than those of all previous plans, all the more so because the party and our people are drafting and will implement a 5-year plan which is based entirely on our own efforts, with no aid or credits whatsoever from outside and in exacerbated international conditions and circumstances, ensuring a rapid rate of development in all branches of the economy and culture.

The objectives stipulated in the Seventh 5-Year Plan are realistic and scientific. They are based, as always, on the general laws and fundamental principles of scientific socialism, as well as on the real potential of our economy to attain these objectives.

To attain these magnificent objectives of the Seventh 5-Year Plan requires further mobilizing of all the internal resources and reserves available in our economy at present and in the future, understanding and full implementation by all of the tasks arising from the situations in which our country is developing--particularly implementation of the principle of self-reliance by all collectives in the cities and in the countryside--and further elevating the work of the party and all its instruments for the revolutionary education and tempering of our new man, through deepening the ideological and cultural revolution, always on the basis of Marxism-Leninism.

1. The Development of Industry

Industry is to be further developed and consolidated in the seventh 5-year period, primarily through fuller and more rational utilization of the country's raw materials and through better utilization of existing production capacities and their extension and reconstruction, as well as by building new projects and giving priority to producing the means of production. Producing the means of production (group 1) in 1985, compared to 1980, is to increase 38-39 percent, while the production of consumer goods (group 5) is to increase 29-31 percent.

Geological prospecting is to be intensified to discover mineral sources, ensuring increased industrial reserves and prospective reserves of oil, gas, coal, chrome ore, copper, ferro-nickel and other valuable minerals, as a base for the rapid development of the extractive and processing industry of minerals for prolonged periods. The effectiveness of utilizing the technical-material base and investments is to be increased in the field of geological prospecting, using advanced scientific methods and intensifying complex studies.

Precedence is to be given to developing the power industry for the purpose of rapidly increasing the products of that industry, ensuring that the growing demands of the economy for those products are met and also to increasing exports.

The development of the oil and gas industry is to be the major task in the energy field. Oil extraction in 1985 is to be increased 56-58 percent, compared to 1980. The increased output of oil and gas is to be based in the areas now being exploited, as well as in the known and discovered ones. The most rational and scientific exploitation of all oil and gas-bearing fields is to be improved and the use of secondary and intensifying methods is to be extended widely in order to considerably raise the coefficient of oil extraction in the sandy and limestone areas. Technical-scientific discipline is to be strengthened and its effectiveness increased, particularly in the oil and gas drilling sector. The work carried out to commission the mines and enrichment plants for bituminous sands is to be intensified, improving at the same time their technical-financial indicators.

The quality of fuels is to be improved in the oil refineries and the range of their products is to be increased in accordance with the needs of the economy; technological waste is to be reduced.

Coal extraction ranks among the most important tasks of the working people in the energy sector, together with other measures to raise its quality and to replace liquid fuels with solid ones. Coal extraction in 1985 is to be increased about 48 percent, compared with 1980.

The output of electricity in 1985, compared with 1980, is to increase 15 percent, 13 percent of which will be by hydroelectric powerplants. Efforts are to be made to ensure more rational use of water resources throughout the year, as well as in the direction of more economic use of thermoelectric powerplants in order to ensure a regular supply of electricity to consumers.

A strict regimen of thrift is to be applied in the use of prime energy products on the basis of scientifically-based norms and stringent and continuous control on their application.

The mineral extraction industry is to be developed rapidly on the basis of the known mineral reserves, primarily by intensifying their extraction in the existing mines and by enlarging the latter. Compared with 1980, the extraction of chrome ore in 1980 is to be increased by about 29 percent, that of copper ore by about 52 percent and the extraction of ferronickel 2.5 times. The extraction of ores of phosphorite, quartz, rock salt, marble, dolomites, olivinites, magnesium, bauxides, nickel-silicate, alabaster and other minerals is also to be increased in accordance with the needs of the economy.

In addition to exploiting reserves of rich minerals, extraction of poorer minerals is also to be increased, ensuring at the same time their enrichment. The level of mechanization in the mineral extraction and processing industry--including the coal extraction industry--is to be raised and new technologies are to be applied for extraction and enrichment, ensuring a considerable reduction of waste during the extraction and processing of minerals.

Both ferrous and nonferrous metallurgy are to be developed rapidly to ensure processing of mineral ores within the country. In 1985, compared with 1980, the production of rolled steel is to increase 67 percent, the production of carbonic ferrochrome by about 80 percent, and the production of blister copper by about 28 percent. The variety and brands of steel, copper products and so forth, is to be increased. The technical, economic and financial indexes pertaining to the utilization of their production capacities are to be improved considerably.

The engineering industry is to ensure the full utilization of the production capacities and means available to the economy and a rapid increase in the production of machinery and equipment to meet the needs for extensions, reconstruction and new construction of plants by our own efforts and to raise the level of mechanization of labor processes. The total production of the engineering industry during the seventh 5-year period is to increase 38-40 percent, the recycling of spare parts 54-56 percent and the production of machinery and equipment 49-51 percent.

Constantly improving the organization and management of the engineering industry through developing cooperation, specialization and concentration, the timely and qualitative preparation of the technological and construction designs for machinery and equipment, and establishing production and recycling of spare parts on more

advanced technological foundations should be the main roads to ensuring fulfillment of the tasks of this branch in increasing production, ensuring more rational utilization of steels and improving the quality of products.

Compared with 1980, the production of the chemical industry in 1985 is to grow 60-63 percent. The needs of the agricultural sector for chemical fertilizers and pesticides must be met increasingly better. The production of items of considerable importance like calcinated and caustic soda, PVC, metallurgical coke, sulphuric acid, detergents and so forth is to be increased. Efforts are to be made to experiment in mastering the production of and producing new types of chemicals, which are currently still being imported.

The construction materials industry is to be developed in accordance with the needs of the economy and of the people and the quality and structure of its products is to be improved, mastering the production of and producing light materials on a large scale and reducing their cost in order to achieve the most effective use possible of the funds allocated to construction and installation. The production of the construction materials industry in 1985 will be about 24 percent higher than in 1980.

The timber and paper industry is to be developed through better utilization of the country's forestry resources. Other materials are to be used widely to replace the use of timber to the largest possible extent. The production of newsprint and other types of printing paper in 1985 is to grow about 33 percent, compared with 1980.

The light industry and food industry is to be developed through better utilization of existing production capacities and through technical and technological improvements. Its role in increasingly better fulfilling the needs of the people for consumer goods in quantity, structure and quality is to be raised.

Compared with 1980, light industry production in 1985 is to increase 37-39 percent and that of the food industry 20-22 percent. Radical improvements are to be made in the quality of products by constantly renewing products widely according to higher qualitative standards, as well as by increasing the number of new articles and varieties, showing greater initiative and imagination in this respect. A resolute struggle is to be waged against the inclination to concentrate on gross production, in order to thus ensure a rapid increase in the range of smaller and very small products.

2. The Development of Agriculture

The need to increasingly better meet the demands of the population and economy for agricultural and livestock products requires that our socialist agriculture should progress more rapidly to intensifying production, increasing yields in the agricultural, livestock and horticultural sectors on the basis of a more scientific treatment of the soil, further improving seeds and breeding stock, better regionalization and specialization of production and perfecting socialist production relations. Overall average annual agricultural production during the seventh 5-year period is to be increased 31-33 percent compared to the sixth 5-year plan; about 90 percent of the increase in agricultural production is to be achieved from increased yields.

The production of bread grains also remains a major task in this 5-year period. The production of bread grains for the 5 years taken together is to increase 20 percent over the sixth 5-year period. Stability in production increases and in achieving the desired yields is to be strengthened and a radical change is to be made in increasing corn production. The average annual corn yield is to increase 26 percent, compared with the previous 5-year period. The measures to administer grain stocks well and to reduce shortages in all possible ways are to be strengthened.

Greater value is to be attached to and measures are to be adopted to rapidly increase the production of industrial crops. The average annual production of sugarbeet is to increase 42-45 percent, that of sunflower 56-58 percent, cotton production 56-59 percent and tobacco output 46-49 percent, compared with the output achieved during the sixth 5-year period.

Particular importance is to be attached to increasing the production of potatoes, vegetables and beans, producing all types in the quantities required and ensuring early crops.

Measures are to be adopted in the plains and coastal areas to effect the intensification of agricultural production to a higher degree. For this purpose, a greater concentration and more rational use of the material base, agricultural machinery, investments and manpower is to be made in an area of 100,000 hectares.

Livestock products are to be increased more rapidly. Compared with 1980, milk production is to increase in 1985 by 29-31 percent, that of meat by 53-55 percent, egg production 50-52 percent and wool production 34-36 percent. Measures are to be adopted to establish meat production on a more scientific base.

The increase in yield per animal is to be the major task in the livestock sector. Precedence is to be given to rapidly increasing the fodder base, ensuring a radical change in securing and in making more rational use of animal fodder. Improving the breeds of all types of livestock is to be accelerated through various measures. Increasing the number of livestock and poultry is to be achieved through improved stocks producing high yields.

To ensure the necessary fodder base for the livestock sector, the yields of first fodder crops are to be doubled and the acreage sown with secondary crops is to be extended. Fodder silage is to be extended rapidly, and all subproducts from field crops are to be gathered and used most economically. Measures are to be adopted to increase the nutritional value of meadows and pastures. New technologies in processing rough fodder and concentrated fodder are to be introduced widely in agricultural economies. Special care is to be taken in the treatment of private livestock that has been herded together, as in the treatment of the collective livestock.

Acreage planted with fruit trees is to be extended and greater attention is to be attached to developing horticulture in general. The main directions of the effort of agricultural units in this sector will be to restock existing plantations up to the required number of trees for a given area and to carry out all agro-technical services required.

The production of fruit during the seventh 5-year period is to increase 35-37 percent, the production of grapes 40-43 percent and that of citrus fruits 48-51 percent, compared with the previous 5-year period, for the 5 years taken together. The production of olives is to increase 66-70 percent.

Forestry is to be further developed as a complex economy to better meet the country's needs for timber products and other forestry products and constant measures are to be taken to achieve a balance between the cutting and growth of forests. Protection and care for wild animals is to be improved.

Full measures will be taken for the desalinization and cultivation of the reclaimed coastal land, to improve acidic soils and to rapidly systematize the soil in the hilly and mountainous areas, in addition to further improving the systematization of land in the plains.

Irrigation capacity is to increase by a further 44-45,000 hectares and all measures are to be taken to preserve existing capacities. The permanent network of underground drainage is to be extended, bringing up the total area to about 85,000 hectares by 1985, and the use of chemical fertilizers and pesticides is to be increased. In addition, 26,000 hectares of new land is to be reclaimed during the seventh 5-year period.

The increased effectiveness of the material and technical base of agriculture and its better combination with the use of manpower is to constitute the main link and reserve in increasing agricultural and livestock products. In addition to measures intended to ensure more scientific and rational use of the soil and to increase its fertility, the effectiveness of the use of chemical and organic fertilizers is also to be increased.

The fulfillment of tasks in the agricultural sector is to be based also on further consolidating its material and technical base and on making the necessary investments to increase soil fertility. The mechanization of agricultural work is to be further increased by making better use of the stock of tractors, agricultural machinery and other agricultural equipment. Comprehensive measures are to be taken to increase the level of small mechanization.

The concentration and specialization of production and agricultural economies is to be deepened in accordance with economic and natural conditions and the development of agriculture, livestock-raising and horticulture is to be further harmonized in order to better meet the country's needs for agricultural and livestock products.

The knowledge, generalization and implementation of advanced experience are to be increased in all agricultural cooperatives and a persistent effort is to be made to apply scientific and technological achievements more widely in production.

3. On Accumulation, Investments and Construction

National income is to be increased more rapidly on the basis of increased social product and social labor productivity in all branches of the economy.

The distribution and utilization of national income is to be carried out on the basis of the requirements of the objective economic laws of socialism, directing them for the priority development of the production sphere and, primarily, to aid the economic development of its two main branches--industry and agriculture. Production for society is to be increased more rapidly than production for personal use by increasing labor productivity and by strengthening the regimen of thrift in all fields. The accumulation fund increase is to be given precedence over the increase in the consumer fund, increasing, primarily, productive accumulation.

The accumulation fund in 1985 is to be increased 67-69 percent over 1980, while the accumulation norm for the 5 years taken together in the seventh 5-year period is stipulated at 31-33 percent. The necessary material and financial funds to effect capital investments and construction, to increase reserves in all branches of the economy and to strengthen the country's defense potential will be secured on the basis of the rational use of the accumulation fund.

The volume of investments is to increase 23-25 percent during the 5-year period and the volume of construction-installation will be 13 percent more than during the sixth 5-year period. Capital investments and construction are to ensure, primarily, the priority development of the branches of material production. About 75 percent of the overall volume of investments is to be used for the development of industry and agriculture.

Construction schedules in general are to be speeded up, particularly with regard to the construction of industrial and agricultural projects and those in the transportation sector. This is to be done through better concentration of manpower and material and technical assets, by a full and rational use of machinery, and a radical change is to be made in the quality of construction. Construction designs, construction sites and machinery and equipment for new construction projects must be secured on time and be up to the quality level required.

Measures are to be implemented to affect a visible reduction of construction costs by strengthening discipline in the study and design of projects and estimates, as well as of the technological and construction aspects. Light construction is to be used more widely and the completion of work and commissioning of projects is to be done in stages and within stipulated schedules.

4. The Development of Transportation and Telecommunications

The total volume of transportation of goods in 1985 is to increase 36-38 percent, compared with 1980, and the volume of transportation of goods in the enterprises of the Ministry of Communications, about 43 percent. Precedence is to be given to the development of railroads to raise the effectiveness of transportation to a higher degree and work is to be intensified and measures are to be adopted to effect a radical change in the intensification of railroad transportation. The volume of railroad transportation of goods in ton-kilometers is to be increased 80-84 percent in 1985. The construction of new railroad lines and other secondary branches is to continue uninterrupted.

The development of transportation is to ensure the timely fulfillment of the needs of the economy and of the people in transporting goods and passengers. The organization and management of transportation is to be strengthened at the base

and at the center for more rational utilization of stocks and the work of the various branches of transportation is to be better coordinated. Automobile transportation is to be freed from all parallel movements with railroads and from crossings in the movement of commodities. The use of trailers is to be increased and the road network is to be further improved. Measures are to be adopted for more rapid development of transportation by means of cable cars and of internal river transportation.

Postal and telecommunication services are to be further improved to meet the growing needs of the population and of the economy, further improving the speed, quality and standard of services.

5. The Development of Foreign Trade

Compared with 1980, the volume of foreign trade is to increase 52-55 percent in 1985, precedence to be given to exports over imports to ensure the increase of the country's currency reserves.

The export of traditional goods is to be intensified and efforts are to be made to increase the range of new products by using all the country's resources and potential. On this basis, the export of commodities in 1985, compared with 1980, is to increase 56-58 percent. Producers are to improve the quality, packaging, labelling and marketing of export goods. The foreign trade organs are to increase their efforts to secure and expand export markets.

Continual measures are to be adopted to reduce the import of raw and other materials, machinery, equipment and so forth to the largest possible extent. Only the more essential needs are to be taken into consideration regarding imports. The norms in the use of imported raw and other materials are to be reduced and they are to be replaced with raw and other materials produced in the country. No machinery, equipment or other goods are to be imported if they are produced or can be produced in the country and without making full use of those available.

The foreign trade organs are to increase their efforts to acquaint themselves better with markets and situations concerning goods and prices in order to increase the effectiveness of our foreign trade.

6. On Increased Labor Productivity

During the seventh 5-year period, 47-50 percent of the increase in industrial production and 45-48 percent of the increase in the volume of construction and installations is to be achieved by increased labor productivity.

The fulfillment of these tasks is to be achieved through further improving the socialist organization of labor, more technical equipment and improving production technology in every branch and sector of the economy. Efforts are to be made everywhere to raise the level of the mechanization of labor processes, particularly in the mines, in agriculture and in construction. Data gathering is to be improved and control is to be tightened over the precise implementation of the technical and technological requirements of labor processes and proletarian discipline at work. The remuneration of labor is to be carried out strictly in accordance with the quantity, quality and cost of production and services, opposing the inclination to pursue one's own personal interest to the detriment of the general interest.

The establishment of labor norms is to be constantly improved on a more scientific basis and in accordance with technical progress, the increased awareness of the working people and their educational, technical and vocational standard. Efforts are to be made to replace outdated norms with new technical norms in every branch and sector of the economy.

Constant care is to be taken to find and employ new sources of manpower and activate them in the service of the country's socialist construction. The distribution of new manpower is to be carried out by always preserving correct proportions between the productive and nonproductive spheres. A constant and widespread educational effort is to be carried out with youth, that it may always respond to, as hitherto, to the needs of the country and be prepared to work in the new work fronts being created in the mines, agriculture, construction and other branches of the economy.

7. On the Elevation of the Material and Cultural Level of the Working Masses

The material and cultural level of the working masses is to be raised further as a result of the possibilities created by the development of the economy during the seventh 5-year period. Per capita income in 1985 is to increase 8-10 percent over 1980. The basic differences between the countryside and the cities are to be narrowed and the social consumption funds are to be further increased in meeting the material and cultural needs of our socialist society.

Retail trade in 1985 is to grow 22-24 percent, compared with 1980.

All state and economic organs are to show increased care in meeting the demands of the population for mass goods in quantity, quality and variety according to the required structure.

In cooperation with producers, the internal trade organs are to acquaint themselves with and study better the demands of the people and are to adopt measures for better planning and distribution of consumer goods according to districts and areas. The culture of services is to be raised to a higher level and public catering is to be particularly improved.

Greater care is to be taken in the sale of food articles in the villages by agricultural cooperatives and the trade sector. Concrete and organized measures are to be adopted to properly fulfill the new tasks arising in this direction as a result of herding together the personal livestock of cooperative members.

The volume of services, repairs and of work carried out to order for the population by communal enterprises is to be increased 45-47 percent and by 80-84 percent in the agricultural cooperatives, using mainly urban manpower. Measures are to be taken to increase the type of repairs and services carried out and to raise their quality.

About 50,000 apartments are to be built during the seventh 5-year period by the state and through voluntary contributions to improve the housing conditions of the population. In addition, construction materials are to be supplied for the construction of 31,000 dwellings by the members of agricultural cooperatives. Numerous villages are to be supplied with drinking water and a number of new aqueducts are to be built in the cities.

The development of education is to aim at further deepening the effort made at all levels of the education system to strengthen the ideological and scientific content of the schools and to raise the standard of the pupils and students in the various categories of schools in order to better meet the demands of the current and future development of production, science and culture.

The number of students attending higher schools in 1985 is to increase 24 percent over 1980. Post university specialization and qualification courses are to be organized on a more scientific base.

Constant efforts are to be carried out to consolidate secondary vocational education, to enroll and preserve contingents of pupils--particularly in part-time schools--and to open up new specialized schools and courses. The number of pupils in full-time secondary schools is to increase 44 percent in 1985, compared with 1980.

Preschool education is to be further extended and the education of children in nurseries is to be raised to a higher level, particularly in the countryside.

The arts, physical culture and sports are to be further developed and expanded and quality is to be constantly raised to better serve the revolutionary education and tempering of the masses, as well as their mobilization in fulfilling tasks in the fields of the country's construction and defense.

The medical service is to be further developed by constantly strengthening and expanding comprehensive prophylactic measures to protect and improve the health of the people and to protect the environment. The quality of medical services is to be raised, particularly ambulatory and emergency services. The effort to diagnose, prevent and cure diseases is to be improved. Particular attention is to be paid to consolidating services to protect the health of mothers and children, especially in the villages. Hospital services are to be further improved. The role of health and hygiene propaganda in improving the health of the population is to be raised.

8. On the Development of Scientific Studies and the Application of New Techniques and Technology in Production

The technical-scientific revolution is to be further developed and deepened in all branches of the economy and culture on the basis of the party's Marxist-Leninist policy and world outlook.

Complex scientific, technical-technological and economic-financial studies to raise and improve production, construction, service and other indicators are to be deepened to raise labor productivity, the effectiveness of expenditure and accumulation and so forth.

All studies carried out in the fields of energy, oil, electronics, engineering, chemistry, agriculture and livestock raising, construction, transportation and so forth, are to serve the implementation of the tasks stipulated in the Seventh 5-Year Plan and to open up new vistas for the country's future development.

A greater effort is to be made in the study and mastering of mathematics, physics, chemistry, biology and other subjects that are essential to the development of applied sciences and technological progress. In our country's conditions, more persistence is to be shown in the application of scientific achievements, this being also the area in which the main efforts of study and research must be concentrated.

The subject matter of studies in the field of social sciences is to be extended and their standard raised, particularly with regard to the great problems of the revolution and building socialism.

9. On the Increase in Financial Resources Through the Strengthening of the Regimen of Thrift

Incomes are to be increased more rapidly than expenditures on the basis of the tasks pertaining to the development of the economy, the increased effectiveness of the social product and the rational use of the national income, particularly of the accumulation funds.

A particular effort is to be made at the periphery and at the center to strengthen the regimen of thrift everywhere, in everything and continuously, and to strengthen financial control. The constant reduction of costs by improving planning and by checking expenditures in production, construction, trade and so forth, is to constitute one of the main sources and factors in increasing financial assets in every enterprise, cooperative and in the economy as a whole.

Measures are to be adopted everywhere to considerably reduce the norms in the use of raw and other materials and to constantly increase reserves at all levels of the economy.

The recycling of some products, raw materials and so forth is to be organized on a more scientific basis. This applies to rubber tires, plastic materials and lubricating oils. Measures are to be adopted everywhere to reduce "waste materials" and to use them as raw materials for the production of various articles.

Measures are to be taken to reduce losses in enterprises, incurred in various activities and products, making them profitable. The socialist attitude toward property is to be strengthened, all necessary measures to ensure its inviolability and good administration should be also strengthened.

On this basis total financial income in 1985, compared with 1980, is to increase 34-36 percent, while total financial expenditure is to increase 33-35 percent.

10. On Perfecting Socialist Production Relations in a Revolutionary Way

The country's economic and social development during the seventh 5-year period is also to be based on the further perfecting of socialist production forces, the full participation of the working class and other working masses in the management of the state and economy, as well as their mobilization and increased initiative in building and defending socialism.

Socialist property is to be further strengthened, particularly in the countryside, supporting and adopting all measures for the implementation of the revolutionary initiative of cooperative members in herding together their private livestock, the aim being to constantly raise the interest of the cooperative members in strengthening collective property and to ensure that the major part of their income derives from their participation in the collective work in the cooperative.

Distribution relations are to be further perfected through implementing the socialist principle of remuneration in accordance with the quantity and quality of the work performed, further raising the interest of the workers, cooperative members and other working people in strengthening individual and collective responsibility in fulfilling all planned economic and financial tasks.

Measures are to be adopted to constantly improve the organization and management of the economy at all levels on the basis of consistently implementing the principle of democratic centralism. The scientific nature of planning and its role in the rapid development of production forces and the proportional development of extended socialist reproduction is to be further strengthened.

The fulfillment of the magnificent tasks of the Seventh 5-Year Plan on the basis of the principle of self-reliance and in the existing international circumstances requires the further consolidating of the party's leading role, the deepening of the class struggle against the external and internal enemies and against alien liberal and bureaucratic manifestations, and the constant elevating of the level of training and combat readiness of all the people in the country's defense.

In approving the draft directives for the Seventh 5-Year Plan, which will be presented to the Eighth AWP Congress, the 10th AWP Central Committee Plenum expresses the profound belief that, as always, the working class, cooperativist peasantry and all our people, under the party's leadership, will intensify the struggle, efforts and their mobilization to meet and defeat the fierce imperialist-revisionist encirclement and blockade and to successfully fulfill the tasks stipulated in these draft directives.

The revolution and our country's socialist construction will always advance. Socialist Albania will become even stronger. The red banner of socialism and communism will rise higher. Our country will always remain an invincible bastion against all storms, and any enemy who would dare touch it would fail shamefully.

The guarantee of the magnificent present and the brilliant future of our people lies in the correct Marxist-Leninist policy and line of our party and in the wise leadership of its Central Committee headed by Comrade Enver Hoxha, which, as always, will lead the people toward new and more magnificent victories and will raise our country to new heights in fully building the socialist society.

The AWP Central Committee calls on all party organizations, the heroic working class, the cooperativist peasantry and all our people to participate actively in the debate on the tasks stipulated for the Seventh 5-Year Plan in the development of the economy and culture with a lofty sense of responsibility, as always, and to make suggestions to improve the draft directives by seeking and discovering new possibilities and reserves.

The great popular discussion on the draft directives is to further raise the mobilization and struggle of the working masses, the mass organizations and the state and economic organs to fulfill the plans in 1981, the first year of the seventh 5-year period and to meet the 40th anniversary of the founding of the party and its Eighth Congress with new victories in all fields of the country's socialist construction.

The AWP Central Committee
Tirana, 16 June 1981

CSO: 2100/85

ILLEGAL PRACTICES SUSPECTED IN INNER-GERMAN TRADE

Hamburg DER SPIEGEL in German Vol 35 No 20 11 May 81 pp 45, 47

[Unattributed article: "Black Cash Registers; GDR Trade"]

[Text] A number of lawsuits have been filed accusing West German firms of so-called evasive business deals with the GDR. In the process Bonn is losing millions of German marks. The profit for East Berlin is substantial.

The NEUE JURISTISCHE WOCHENSCHRIFT, the standard paper of the German legal profession, contained disputes by experts concerning "criminal problems" in inner-German trade, in other words, they dealt with wild business practices.

Attorney General Rudolf Mueller and Judge Bernd Wabnitz of the Oberfranken court were complaining about the "ruthless profiteering" by industrial criminals in "cooperation with GDR state enterprises." Karl-Heinrich von Waldthausen, an Essen attorney, however, felt that the arguments presented by the Justice Department representatives were "pure fabrication" and he wondered whether the accusations against the East state might "not" be somewhat premature." The dispute concerning the peculiarities of many German-German business transactions, which has already lasted more than a year, is now being continued in the courts, and the Essen attorney is again involved, this time as a defendant. Von Waldthausen, 70, a member of the protestant Order of the Knights of Malta, a private banker and a member of a respected aristocratic family that has accumulated a lot of money in the area, must defend himself against the charge of questionable GDR business transactions before the Third Superior Criminal Court of the Duesseldorf District Court. According to investigators, he had "damaged the capability of the economic order which had been protected by the state."

The Essen attorney was a cofounder of the Waltrade AG, a German-Swiss trading company which was established in the middle of the 1960's. Between 1973 and 1979 the firm allegedly brought into the FRG by way of inner-German trade textiles valued at DM 29 million, originating in Romania, Czechoslovakia and Bulgaria-- they had falsely been declared as GDR goods and consequently were duty-free. The loss for the German treasury: approximately DM 12 million.

Two other East-West trade veterans have also been indicted: Nikolaus Herczeg, 70, an Austrian born in Hungary, who as manager of the Waltrade AG was promoting the company worldwide. "Whether Peru or Poland," von Waldthausen raves, "he had connections." The third defendant is Hans Krawehl, 70, an Essen textile specialist. The businessman is involved in social and religious institutions and enjoys a good reputation in the Ruhr city. Essen's Krawehlstrasse is named after his family.

The partners representing Textilcommerz, the GDR foreign-trade company, have not been charged. According to the findings by Duesseldorf customs agents, they were actively involved in the smuggling and in the process they collected 17 percent hard-currency commission on Western accounts.

The Duesseldorf trial which began last week probably will not only be the most extensive process to date against illegal business deals in inner-German trade; it is, moreover, the prelude to a series of trials dealing with the same topic. It is likely that the courts in Hamburg, Bremen, Frankfurt, Stuttgart and Hof will look into illegal German-German business activities before this year is over; in Duesseldorf a second trial has been scheduled for this year.

The conflicts are more or less preprogrammed. By law the two German states are maintaining economic relations of a unique kind. They were regulated, above all, in the 1951 Berlin Agreement which, except for minor modifications, has remained in effect to this date. Accordingly the FRG does not consider the GDR a foreign country when it comes to customs regulations; neither customs duties nor import sales taxes are levied on goods that are "produced or manufactured" in the GDR. Nevertheless, according to the Berlin agreement business transactions must be licensed by the state.

Even the financial arrangements are irregular. Imports and exports from and to the GDR are more like a barter arrangement, according to which the GDR is only credited in the Western currency: If everything is legal, businessmen make payments in their own currency to their respective state banks and not to their business partners here or over there. But illegal activities have been going on for a long time, and the trend is increasing:

--As happened in Duesseldorf, products from cheap countries are disguised as GDR products and brought into the FRG--West German importers save customs duties amounting up to 18 percent of the value of the goods and the 12-percent import sales tax. In addition they can claim a fictitious pretax deduction of 11 percent at the revenue office; the GDR is collecting a 2-digit commission which, most of the time, is paid into Western accounts.

--West German businessmen are shipping Far East goods over there, labeling them "Made in West Germany," to establish business relations with the GDR. The GDR is paying for these shipments by making use of the "Swing"--which makes available interest-free credit--and returns the goods to the FRG at higher prices; the East state is cashing in on the profit margin in foreign exchange.

--The GDR officially requests that goods from the FRG be sent to a socialist brother country; in transit, however, the shipment is diverted to warehouses in

the GDR--the FRG exporter is reimbursed for the value-added tax for the alleged export to an export country; FRG businessmen are instead putting money into black GDR accounts.

--The GDR sells products at dumping prices to West German trading companies under GDR control. The enterprises sell these goods at regular market prices; the difference between the low and the market price is returned to the GDR by way of foreign accounts.

The crooked trade routes began with the smuggling of liquor. According to estimates by the FRG Ministry of Finance, more than 1 million liters of raw alcohol entered the West illegally from the GDR during the last 17 years.

Last year the Darmstadt District Court conducted a trial that dealt with the smuggling of 105 million cigarettes which had entered the FRG illegally using the GDR as a transfer point. And since a world textile agreement established import quotas beginning with 1974 to prevent a flooding with cheap textiles and preserve jobs in the expensive countries, smuggling of clothes and fabrics has accelerated.

During a trial in the Hof District Court it became known that FRG businessmen were using the GDR turntable, for instance, to buy men's shirts in South Korea or work clothes and underwear from state trading companies, Confex in Bucharest, Industrialexport in Sofia or Centrotex in Prague--which is to be proven during the current trial in Duesseldorf.

The first day of the trial was already an indication that the proceedings will be difficult. Even the indictment could not be read. Two of a total of seven defendants did not even come. Herczeg, the principal defendant who had been released from pretrial confinement because of illness, had left the country. As a precaution, the judge took away the identity card of the accused von Waldthausen.

Waldthausen, however, says that he is "completely innocent." He had already resigned from his office as president of the board of directors of the Waltrade AG in 1970, 3 years before the beginning of the alleged Waltrade-GDR manipulations. To be sure, he had asked to see business reports and balance sheets regularly after that date too, but the only reason was the fact that the company owed a total of DM 11.4 million to banks of which he himself was the manager or a member of the board.

Furthermore, Attorney von Waldthausen cannot detect any "criminal violations of tax regulations" in the incriminating East-West transfer. In inner-German trade there are no customs borders (which is indisputable); consequently, all goods are duty-free in inner-German trade as soon as they arrive in "Germany within the borders of 1937" from a third country.

If that were so, Attorney General Rudolf Mueller countered in the NEUE JURISTISCHE Wochenschrift, the GDR is becoming "a full member of the European Community" and "could" ignore "all international agreements."

[69]

CSO: 2300/237

GERMAN DEMOCRATIC REPUBLIC

CROP, WEATHER REPORT PUBLISHED FOR APRIL 1981

East Berlin FELDWIRTSCHAFT in German Vol 22 No 6, Jun 81 p 272

[Article by Dr D. Krumbiegel, GDR Meteorological Service, Central Weather Bureau, Potsdam]

[Text] The Weather in April 1981

In the first half of the month, air temperatures stayed above normal but then, in the second, they dropped much below. There was very little rain, except for the end of the month, when there was abundant rain in the southern and central bezirks.

From 3 to 7 K above-normal daytime air temperatures at the beginning of the month temporarily cooled off around the 5th. Then it warmed up again which, with air temperature anomalies between +5 and +8 K, reached its climax around the 11th. The southern GDR had more favorable temperatures than the southern up to mid-month. Thereafter, that regional differentiation was reversed. Starting on the 16th, daytime air temperature averages mostly ranged from 3 to 5 K and on the coldest days (17th, 18th, 23rd and 24th) dropped to 8 K below normal. The warm weather period often led to daytime maxima around 15°C in the internal plains. For a few days they even rose to around 20°C. Starting at midmonth, maxima mostly ranged between 5 and 10°C. Up to the 13th, almost all nights remained, regionally or widespread, without ground frosts. Minima hardly ever dropped below -3°C. Between the 14th and 25th, an unusually long late frost period occurred in the whole area. In the coldest nights (from the 16th to the 17th, the 20th to the 21st, the 22nd to the 23rd, and the 24th to the 25th), ground temperature minima recorded came to -5°C widespread, and to between -8 and -11°C regionally. Frosts often lasted 10 hours. Except for the 30th, the last 5-day period got late light frosts regionally. The duration of sunshine was far above normal, especially in the northern part. The second 10-day period got especially much sunshine.

Up to the 26th there were 19 days that virtually got no rain at all. The daily totals on the other days ranged between 1 and 3 mm. Persistent rains resulted in volumes of between 5 and 15 mm in the central plains, between 20 and 30 mm in the southern bezirks, and as much as 45 mm regionally. On the 29th we got 5 to 8 mm, in the southern bezirks, 5 to 15 mm. In the third 10-day period there was snow again which temporarily even formed a snow cover in the plains (21st, 22nd). By the end of the month, the mountains had snow from 5 to 25 cm in depth.

Weather Data for April 1981 according to the Chief Climatological Office, Potsdam

1. Monthly Average Air Temperatures and Deviations from Normal Values

Schwerin	7.2°C	-0.2K	Erfurt	7.1°C	-0.1K
Neubrandenburg	6.7°C	+0.1K	Leipzig	7.7°C	+0.1K
Potsdam	7.9°C	-0.1K	Goerlitz	7.1°C	0.0K

2. Average Precipitation according to Bezirke

Rostock	15 mm = 36%	Halle	47 mm = 118%
Schwerin	16 mm = 35%	Erfurt	51 mm = 104%
Neubrandenburg	11 mm = 27%	Gera	69 mm = 147%
Potsdam	25 mm = 61%	Suhl	39 mm = 72%
Frankfurt	25 mm = 68%	Dresden	66 mm = 122%
Cottbus	57 mm = 121%	Leipzig	79 mm = 176%
Magdeburg	21 mm = 51%	Karl-Marx-Stadt	61 mm = 98%

3. Evaporation Potential

Northern bezirke	55...65 mm
Central bezirke	50...55 mm
Southern bezirke	45...55 mm

Soil, Crop and Labor

Surface soil temperatures in the first 10-day period mostly ranged between 8 and 10°C and rose in the third 5-day period to values around 12°C. As the subsoil had warmed up to from 8 to 11°C by midmonth, surface soil temperatures during the subsequent cold period kept between 6 and 9°C. Then the heat reserves of the subsoil were completely lost. On the 30th, temperatures ranged between 7 and 9°C at a 50-cm as well as 100-cm depth. Ground water levels kept diminishing up to the middle of the third 10-day period. Sunshine greatly assisted in the drying of the soil. So did the wind and the at times great temperature differences between day and night (ground water rising from the subsoil). These combined effects are clearly attested to by what are very high evaporation values for April. By the end of the month ground water rose greatly in the southern GDR. Considerable regional ground water differences ensued. At a 50-cm depth on the 30th below turf the following values were recorded: northern bezirke, 35 to 70, bezirke of Magdeburg, Potsdam, Frankfurt and Cottbus, 55 to 80, and the other bezirke, 80 to 100% of usable field capacity. Soil climatic conditions for nutrient mobilization and bed structures, despite relatively favorable temperatures, have to be regarded as mediocre. So much precipitation in March had a lasting negative effect on the soil air budgets. Soil biological processes were furthermore curtailed by the water level reduction in the surface soil.

Above-normal air temperatures in the first half of the month greatly stimulated growth and crop development. Winter rye, winter catch crop and winter barley came up fine. Forage growth got a big start. Summer crops came up fast and even. Yet the wet March had incalculable effects on the winter crops. Wet spots and air deficits made for unevenness in the crops. Nutrient losses could be seen by coloration and growth differences due to errors made in the first nitrogen application. Stagnation in growth became widespread at midmonth, with daily temperature

averages below 5°C and due to the late frosts. It must be assumed, however, that the root systems received a boost in their growth because the soil temperatures were markedly higher than the air temperatures. That, in connection with the ground water reduction, suggests that the drought resistance was improved. Winter catch crop did not get very tall, and so its yield is diminished. That the summer crop came up slowly is due to water shortage in the upper surface soil stratum. The late frosts caused considerable damage. Peaches and sweet cherry got the worst of it. All other fruit varieties suffered partial damage to a considerable extent. Also affected were sugar beet that had already come up, legumes, grain, grasses, ornamental plants and deciduous trees. Phenological development by midmonth was premature by 10 to 15 days in the northern and by 15 to 20 days in the southern part. Then it stagnated and became nearly normal by the end of the month.

Except for the end of the month, field work encountered no direct interference due to the weather. The very high ground water level in the subsoil and wet spots made it necessary, however, not to work or cultivate certain acreages. There were some very deep tracks caused by fertilization measures on winter grain acreages. Summer grain cultivation was by and large completed in the first 10-day period. Sugar beet seeding was, for all intents and purposes, completed in the second 10-day period, and potato planting, up to roughly 80 percent. Meteorological conditions became extremely unfavorable at midmonth for the application of herbicides and stalk stabilizers because of the very low air temperatures.

Meteorological Projections for Farming in June 1981

Root crop cultivation having been completed relatively early, suggests the crops will fill in fast. That reduces the time frame available for tending them. Intensive mechanical maintenance is recommended on behalf of the soil structures.

The high phenological potential will bring it about that for perennial forage crops and pasture land the optimum time frame for the first growth is soon to be exceeded. Increasing importance attaches this year to the nutrient fertilization of all acreages under irrigation.

§885

CSO: 2300/246

RESEARCH PLANS FOR AGRICULTURAL ZOOTECHNICAL SECTORS

Bucharest REVISTA ECONOMICA in Romanian No 20, 21

[Two-part article by Prof. Nicolae Giosan, chairman of the Academy for Agricultural and Forestry Sciences]

[15 May 81 pp 13-14]

[Text] Starting with the tasks outlined by the 12th Party Congress for the development of agriculture as one of the basic branches which determines our society's general socioeconomic progress, the Peasantry Congress has been discussing since the beginning of this year, decisions of the highest significance for the fulfillment of a new agrarian revolution which will assure the transition of all agricultural activities to a new quality. "We are in fact proposing," said Nicolae Ceausescu from the dais of this forum, "to achieve a true agrarian revolution in regard to production, labor productivity, technologic level, economic efficiency, and general social activity in our villages. We will have to make all possible efforts to obtain a higher vegetal and animal production, at the level reached by the leading units, which will make it possible to satisfy the scientifically based requirements for the population's consumption, as well as the other needs of the national economy."

One of the foremost documents adopted by the Second Peasantry Congress is the Program for the Development of Technical-Scientific Research in Agriculture for the 1981-1985 Period, and Measures to be Taken to Rapidly Apply in Production the Results of Research and to Generalize Advanced Technologies and Experience; the formulation of this program was based on the general directives and concrete objectives established in the documents of the 12th Party Congress regarding socioeconomic, scientific-technologic, and energy development during the 1981-1985 five-year plan and the upcoming period.

The entire research activity in this branch is concentrated on the implementation of the objective established by the secretary general of the party--the achievement of a thorough agrarian revolution, as well as the sustained development and modernization of agricultural production. At the same time, research programs are also aimed at the indications provided by Nicolae Ceausescu during discussions, meetings with specialists, and working visits to production units, institutes, and research stations in agriculture.

Taking into account both the accumulated positive experience and the shortcomings that still persist, as well as the growing role of scientific research in assuring the progress of agriculture, this program establishes the fundamental directions and objectives of research for the 1981-1985 five-year plan and the period to follow, measures for perfecting the management of research activities and for introducing and expanding technologic progress throughout agriculture, and guidelines for developing international scientific collaboration and cooperation in this domain.

The objective of research is to increase the contribution of scientific, technical, and technologic progress to fulfillment of our agriculture's tasks--optimum satisfaction of population's consumption demand for agroalimentary products, supply of raw materials for the food, light, and other industries, creation of exportation resources, and broader participation in the formation of the national fund for social and economic development.

The research plan for the 1981-1985 period, as well as longer range provisions, have been formulated in close agreement with the development requirements of each separate production sector, and of the branch as a whole.

Greater Yield per Hectare and Higher Content of Valuable Substances in Vegetal Production

In the major domain of vegetal production, and of grain and technical crops, research will be focused on creating new varieties and hybrids which will assure: high and constant productions per unit area; high contents of useful substances; lowest possible specific consumptions (materials and energy) and costs per unit product; and resistance to disease, pests, and unfavorable climate; and resistance to failure, so as to eliminate losses during mechanized maintenance and harvest operations.

Research seeks to improve current technologies and create new ones, which will integrate all necessary steps, beginning with the working of the soil, allotment of varieties and hybrids, fertilizing with organic and mineral fertilizers, and providing optimum density for plants, and ending with maintenance, harvesting, storage, and conservation of production. Institutes and research stations also play a significant role in assuring the necessary quantities and qualities of seeds for agriculture as a whole, as well as a surplus for exportation.

Research in wheat cultivation is oriented toward the creation of varieties with a biologic production potential of 8-11 t/ha; particular attention will be devoted to early varieties, resistance to drought and intense heat, and comprehensive and lasting resistance to diseases and pests, so as to assure large and stable crops for all our country's climate and soil conditions.

The major objectives for improving autumn barley and two-row barley are to increase resistance to wintering, failure, and leaf diseases, as well as to create varieties with large grains, as essential conditions for increasing production per hectare.

A large part of the future research is aimed at corn cultivation, seeking the further creation of earlier hybrids with high production capability (10-15 t/ha), resistant to stem breakage and failure, tolerant of cold, drought, and high heat, and which will reach full maturity in colder years as well, in all climate and soil zones; cultivation technologies will have to be improved both for irrigated and non-irrigated corn in order to increase the degree of mechanization of operations.

Technical crop research is interested in improving the varieties of plants, in terms of higher yields and larger contents of nutritional elements. Sunflower cultivation for instance, is seeking to increase the production capability of hybrids (to 4.5-5 t/ha), raise the oil content to 52-54 percent, and create early hybrids with short stems, that would resist white and grey rot; the objectives established for soy have been to obtain early varieties with production potentials of more than 4 t/ha, and to increase their protein content to 45 percent. For sugar beets, the aim is to increase production capability (to 65-80 t/ha), sugar content (to 19-20 percent), and storage resistance (without losses), as well as to improve the mechanization of all operations. Research to be initiated in the cultivation of flax for fibers will be aimed at improving resistance to fusariosis and dropping, and in the case of flax for oil, at obtaining varieties with yellow seeds and a high content of useful substances.

As in the case of grain and technical crops, the horticultural research program is oriented toward the creation of varieties and hybrids with a high production potential, a large content of high quality alimentary substances (protein, vitamins, salts), improved technologies, and the production of seed and planting materials to meet the demand in this important sector of our agriculture. The creative efforts in vegetable and flower growing are focused on improving the resources of hybrids and varieties, and the formulation of technologies which will assure higher labor productivity and reduced production costs; the program provides for the creation of varieties with a biologic production potential of 55-75 t/ha for tomatoes, 50-55 t/ha for peppers, 40 t/ha for onions, and 12-15 t/ha for garlic.

Potato cultivation will benefit from the contribution of scientific research through the creation of varieties with production capabilities of 70-80 t/ha, resistant to viroses and blight. The conditions necessary to extend potato cultivation for seeding into the southern regions of the country will be studied and determined, so as to reduce transportation costs for seeding materials. At the same time, research programs are being formulated to create potato varieties which could be cultivated in irrigated systems following the harvest of grains.

One important research area is the increase of production potential in orchards. The new varieties of apples and pears that lend themselves to high densities in intensive and super-intensive plantations, will be characterized by resistance to diseases and early maturation, complementing the existing varieties; plum varieties will be created which will have large fruits with a high content of dry material and freestones, and sweet and sour cherries will be grown in trees that are shorter and self-fertilizing. Improved methods for integrated combat against diseases and pests will allow a reduction in the number of treatments and in the consumption of polluting pesticides. A major objective of research in fruit cultivation will continue to be a higher level of mechanization of operations in orchards and seedling farms, as well as the production of seeding materials with high biologic value and free of viroses, as needed for the development of our orchard resources.

For vineyards, greater attention will be devoted to clone selection, so as to multiply not only the types which result in high production, but also those which yield higher qualities; research in the area of mechanization will cover grafting and forcing operations, as well as mechanized grape harvesting.

Greater Soil Production Potential, Total Utilization of Land Resources, Rational Management of Water Resources

For the most efficient utilization of the major means of agricultural production, a task of the most outstanding importance for research is to gain knowledge about the natural and economic fertility potential of the soil, and about the changes in its physical, chemical, and biologic characteristics, so as to obtain the highest possible yield from its use through the most efficient location of crops in ecologic zones, the formulation of different cultivation technologies, and determination of the soil relationship of water improvement projects. Soil improvement measures will be formulated in order to place in use poorly productive and unproductive land (sandy, eroded, salt-saturated, acid, excessively humid, and other soils).

For the most efficient utilization of irrigated land, watering methods will be perfected, land improvements and water supply layouts will be established for automated operation, and new construction and technical solutions will be formulated to assure higher production on irrigated land, as well as reduce specific consumptions of water, energy, materials, and manpower.

A fruitful collaboration with research in chemistry offers new development prospects. The priorities in this area are: diversification of fertilizer varieties with a high content of active substance; establishment of economically optimum dosages, using modern methods of soil and plant testing, which will lead to higher utilization coefficients of nutritional elements on the part of plants; studying the possible use as fertilizers, of dolomites, peat, marl, ashes, other industrial wastes and scraps, waste from industrial-scale animal raising farms, as well as household garbage.

By diversifying and modernizing technologies according to crops, land, and climate zones, and by establishing zone systems of agriculture as well as rational crop rotations and structures, it will be possible for production units to achieve the quantitative, qualitative, and economic parameters obtained in our own research and throughout the world. One set of studies and research concerns the harvest of two crops per year on the same ground, especially in irrigated zones in the south of the country.

Research will be developed in the computer programming of crops by zones, microzones, and production units, based on resource and energy consumption balances. Hydrology research is focused on the formulation of solutions for hydrographic basins, for comprehensive waterway management, storage of water from interior rivers in reservoirs, utilization of underground water, and rational use of rainfall, by establishing differentiated agrosystems both in terms of zones and of production units, so as to make maximum use of climate factors.

Perfecting the Machinery System

Attention in the mechanization of agriculture is focused on the construction of modular systems of machinery which will make it possible to attach 2-5 machines of the same type side-by-side, forming large combinations to match the power of tractors; or the coupling of 2-5 machines of different types one behind the other, forming complex groups which can perform several operations in one pass. At the same time, the system of machinery for grain and technical crops will be complemented with new, high yield elements. The research in this domain, in collaboration with the machine building industry, will help to implement the indications given by Nicolae Ceausescu to the Peasantry Congress, namely, that the standardization of tractors and agricultural machinery be completed in the shortest possible time, by establishing several strictly necessary types, fully proven under the conditions of our agriculture.

Current and near future concerns are aimed at the construction of combined-modular groups which will meet the new demands for implementing the system of minimum soil tilling, and for introducing new, improved, simple, and efficient technologies, oriented toward reducing the consumption of fuel by about 30 percent in a first stage.

Priority is also devoted to establishing a system of machines for working land on slopes, for vineyard, orchard, and vegetable cultivation operations, for harvesting fodder, and for mechanizing animal raising operations.

The reduced consumption of materials in the construction and utilization of tractors and agricultural machinery, which is also a priority objective of research, will result in: a reduced number of necessary machines; higher work capability of combinations due to higher operating speeds; reduced wear in use and implicit reduced consumption of spare parts; improved overhaul techniques; and extended application of these methods.

[22 May 81 pp 4-5]

[Text] Increasing Productive Potential in Zootechnology

In keeping with the process and tasks for increasing the role played by zootechnology in the total agricultural production, the program stipulates a powerful development of research in this domain. The major objectives of the program consist of formulating new methods for improving the breeds of animals and fowl, as well as new zootechnologies which will assure high productions, improved product quality, higher processing yields, reduced specific consumptions of food, and lower costs per unit product. New, higher performance lines and hybrids will be created, adapted to different ecologic conditions and forms of exploitation, with high reproduction indicators; new methods and procedures will be formulated to prevent and combat diseases, and to reduce mortality, particularly in young animals.

By further stressing the specialization of research stations, and by improving one of the three breeds of bovines in our country, research seeks the creation of lines with a biologic production potential of 5500-6000 liters of milk for the Romanian Baltata and Bruna breeds, and of 6500-7000 liters for the Friza breed, together with

a higher content of fat and protein in the milk. Improvements in meat production potential are also being sought; the proposed goal is to achieve, in the descendancy of stud bulls, an average daily weight gain of more than 1200 g for the Romanian Baltata breed, 1150 g for the Bruna breed, and 1100 g for the Friza breed, with a fodder consumption of less than 5.5 UN per kg of weight gain.

Current techniques for reproduction and selection will be improved in order to maximize genetic progress; an average natality percentage of more than 85 percent will be assured by using modern methods for preventing and combatting sterility, provoking polyovulation, and transplanting zygotes.

For ovines, together with the consolidation of the lines created during recent years, improvement research will be concentrated on increasing the productive potential of existing breeds, so that by 1985 the research flocks will produce 12.5 kg/head for fine wool sheep, 6.5 kg for semi-fine wool ones, and 4 kg for coarse wool animals. Lines and hybrids will be created, which in addition to offering higher wool production capabilities and average daily growth rates, will have a natality indicator of 140-160 percent for fine and semi-fine wool breeds, and of more than 120 percent for coarse wool ones. The improvement process and exploitation technology will be closely adapted to the specific climate of our country and to the most efficient possible use of existing fodder resources, particularly of natural pastures in hill and mountain zones.

In the swine sector, particular attention is devoted to the creation of new maternal lines with a prolificness of 13-14 piglets per farrow (23-25 piglets per year), and with good nursing capabilities. In paternal breeds, the goal is to form new pure and synthetic lines with an average daily growth rate of more than 750 g per animal, with 70 percent meat in carcasses, and with a specific consumption of less than 2.6 kg of concentrates. A priority objective of research during the next years, is to improve the utilization indicator of sows through higher prolificness, maintain the available sows with minimum losses, and increase the average butchering weight, without negatively affecting the quality of the meat and the proportion of meat in carcasses. The large number of swine in the population's private farms makes it necessary to create pig line which will appropriately utilize other existing fodder resources (potatoes, beets, melons, and so on).

In aviculture, the research is directed toward the creation of new hybrids for eggs, with a production of 290 eggs/hen for Leghorns, and more than 260 brown eggs per hen for self-sexing hybrids; in the case of meat producing breeds, the aim is to create self-sexing hybrids with a larger number of chicks per mother-hen, and with a weight of more than 2 kg for broilers younger than 54 days, for a specific consumption of less than 2.3 kg of concentrated fodder. Improvement research will be conducted for other breeds of meat fowl (broiler turkey hybrids with a live-weight potential of 6-6.6 kg at 14 weeks; broiler duck and goose hybrids with respective weights of 3.5 and 5 kg at the age of 8 weeks), in parallel with improved production of incubation-eggs and hatching percentages.

To support the implementation of the party and state leadership guidelines regarding the development of silk-worm breeding, sericulture research will be initiated or continued, to create new lines and hybrids with a high production potential and greater resistance to disease, able to use other food resources (leaves of the

castor-oil plant, oaks, and so on). Priority is devoted to creating new types of mulberry trees with 22-26 percent protein in their leaves, adapted to Romania's climate conditions, and to formulating new technologies for growths in successive series throughout the vegetation period.

Apiculture research will be focused on the formation of new lines, adapted to the ecologic conditions of various areas of the country. Directed growth and the dissemination of a larger number of valuable queen bees, as well as the diversification of the food base and improved valorification of apicultural products, are premises for qualitatively superior results.

The research program in pisciculture seeks to increase production in systematic farming arrangements to more than 3600 kg per hectare, as well as to significantly raise the production potential of ponds and reservoirs through the creation of new lines of hybrids adapted to these conditions, the improvement of technologies for reproduction, growth, and dissemination of valuable breeds, the application of multiple cultures, and a more efficient use of food. Another research which will undergo extensive development will be the area of ocean fishing, the culture and acclimatization of useful marine invertebrates in the Romanian continental shelf of the Black Sea, and the directed growth of sea fishes in in seaside lakes.

As a fundamental component of modern zootechnology, the fodder base represents the essential condition for higher production. The research in this area is oriented toward creating improved varieties and technologies, and the superior valorification of production, and in particular of secondary fodder resources from agriculture and the food industry. Also intensified will be the research in expanding protein resources and their efficient use in the food of various categories of animals.

Given the proportion of natural pastures in the volume-fodder production of our country (more than 45 percent), the research of future years will be oriented toward the formation of new varieties of valuable grasses and perennial vegetables for pastures, while assuring the necessary seeds for regenerating or super-seeding more than one million hectares per year. Research will also be expanded in improving the technologies of pasture exploitation in terms of pasturing as well as harvesting and storing the green mass, so as to achieve maximum production of milk, meat, and wool per hectare.

Special attention in zootechnology is being devoted to veterinary health assistance. Greater stress is being placed on the most effective preventive treatments. To this end, the priority directions of veterinary medicine research are to find new ways and means to limit the incidence of, and to eradicate, infectious diseases; and to solve animal pathology problems characteristic of large animal raising units. More extensive research will be carried out in the pathology of reproduction and diseases of young animals of all breeds, devoting special attention to non-specific factors (nutritional and metabolic) that can manifest themselves in infertility, abortion, and high mortality. The production of biologic preparations and veterinary drugs will seek quality improvements in current products, and the creation of new products with better effects on the health of animals.

Modern Methods, Processes, Techniques

Starting with the fact that present investigation methods are limited, and do not allow the achievement of exceptional progress in plant and animal improvements, a special program of genetic engineering has been introduced, whose objective is to create new organisms capable of greatly exceeding current productive potential performances. The work is oriented toward obtaining forms--primarily among grains and technical crops, but in other plants as well--capable of fixing atmospheric nitrogen through symbiosis with microorganisms or through direct assimilation by their own cells. The achievement of a high productive potential in animals requires the transition to new methods and techniques for genetic transformation of the biochemical and immunologic characteristics associated with reproduction, for sex influencing, and for gene transfer among and within breeds, so as to create animal organisms with special characteristics through the grafting of biologic properties that exhibit genetic resistance to aggressive factors during intensive exploitation, that correct innate metabolism defects, and so on. A preponderant place in this program will be occupied by microbiology research, because of the role of microorganisms in production growth and in higher energy-conversion yields.

Another special program concerns production increase and the utilization of the biomass through the improvement of some forest plants and varieties, so as to produce a maximum quantity of biomass per unit area, and through the formulation of new processes for converting the biomass into agricultural food products and fuel.

The use of unconventional energy sources in agriculture are a priority concern of research. A special program will be devoted to the generation and use of biogas in the production activities of agricultural units. New types of multiple motors are being envisaged in the area of wind energy, which will be able to also operate at low wind speeds (3 m/sec), and which will be used to pump water in zootechnical farms, dry straw, produce electric power, and so on. The interest of specialists is also being expanded into the use of solar energy to dry grain and other agricultural products, as well for use in zootechnical farms; and research in the use of geothermal water heat, particularly to produce greenhouse vegetables, flowers, and so on, will also be broadened.

With the technical assistance of the institutes and stations of the Academy for Agricultural and Forestry Sciences, the 1981-1985 period will see the formation of about 350 biogas production units, which will contribute 65,000 tcc (tons of equivalent fuel); a geothermal energy production and utilization capability amounting to 120,000 tcc (used for greenhouses, flax and linen processing, pisciculture, and so on); solar energy collection installations with a capability of 20,000 tcc; and wind installations with capacities of 180 tcc. Moreover, heat recovery devices which will save 170 tcc will be placed in operation.

The food industry will benefit from the results of broad research for the superior valorification of agricultural raw materials, product diversification, higher quality, and cost reduction, through improvements in current technologies; the creation of new technologies and equipment based especially on fermentative and synthetic chemistry; the use of thermosterilization, atomization, ionizing radiation; and other processes, in the processing of horticultural products.

The solution of the complex problems raised by the development of agriculture require the large scale application of modern scientific methods to the management of social and economic activities. To this end, research in the field of agrarian economy will be concentrated on the improvement and implementation of modern methods of planning, organization, and management of unified agroindustrial councils and agricultural units, and on the economic optimization of technologic processes. Particular attention will be devoted to the improvement and application of self-management and self-administration of units, and of the economic-financial mechanism in agriculture.

Unified System for Introducing Technical Progress

The fulfillment of the development tasks of agriculture requires--together with intensified scientific research--improvements in the implementation of results in production through measures designed to increase the responsibility of agricultural organs, research units, production specialists, and teaching staffs, and for the effective and total application of technologic progress in practical activities. In this respect, the academy will improve the coordination and control of the entire research and technologic planning activity in agriculture, forestry, the food industry, and water management. Together with the Ministry of Agriculture and the Food Industry, a unified system will be formulated and implemented to introduce technologic progress, whose main thrust will be:

Annual determination of varieties and hybrids for each species, differentiated by zone of cultivation;

Production of the necessary seed and planting materials for the entire country, and raising of breeding animals and reproducers in research units and specialized farms;

Determination of technologies for each separate crop, differentiated by types and hybrids, on the basis of results obtained in research and in leading agricultural units; of technologies for rational cultivation of irrigated land, of excessively humid land, and of eroded, sandy, acid, and salt-saturated soils; of technologies (differentiated by zones) for comprehensive improvement of pastures and grasslands, through reseeding, super-seeding, and fertilization; as well as for production harvesting and storage;

Improving the structure of the fodder base in accordance with zones for raising animals and with the size of herds;

Improving and distributing animal breeds in climate zones;

Improving the machinery system in plant cultivation, horticulture, and zootechnology;

Continued improvement of the zoning of agricultural production, and introduction of results in annual and long range plans;

Inclusion of research results in the plan for promoting technologic progress, and overseeing the fulfillment of this plan by means of a system similar to the one used for the state plan;

Valorification of research results in planning documents for machine construction and building investments, in the national patenting system, and in the plan for raising the training level of agricultural cadre;

Organization of scientific events, work conferences, and so on (in collaboration with agricultural organs and production units), publication of research results, and dissemination of results in interested units.

The activity of research institutes and stations will be organically integrated into that of unified agroindustrial councils, and will contribute to higher production levels and economic efficiency.

The accelerated participation of science in the intensification and modernization of agriculture will implement the indication provided by Nicolae Ceausescu at the recent Peasantry Congress: "The achievement of a profound agrarian revolution, and the sustained development and modernization of agricultural production, presuppose the fulfillment of a powerful revolution in research activities and in the introduction and generalization of technologic progress throughout agriculture."

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FODDER SUPPLY, KEYSTONE OF ZOOTECHNICAL PROGRESS

Bucharest REVISTA ECONOMICA in Romanian No 21, 22 May 81

[Article by Dr Alexandru Ignat]

[Text] The significant rise in livestock production is one of the major goals in achieving the new revolution in agriculture. The underlying arguments are numerous. Meat, milk, eggs and the other products from meat, milk, and so on are staple foods for popular consumption and in increasingly greater demand with the population. Animal products essentially ensure the material required by the food industry and a part of the raw materials and supplies needed in the light, chemical and other industries. Moreover, zootechnical activities directly help to minimize the seasonal character of agricultural operations, ensure their continuity, and conduct them at a rapid pace all the year round, respectively to correspondingly obtain the incomes. Proceeding from these factors, the importance of boosting animal production was significantly spotlighted by party secretary general Nicolae Ceausescu who emphasized that "the implementation of our party's program, the building of a multilaterally developed socialist society, of communism necessitate an expanded agriculture, an advanced zootechnical sector."

Dynamically Developing Sector

We must point out that animal output now accounts for almost 44% of all the agricultural output, the activity of this sector having the most dynamic evolution. Versus the evolution of the total agricultural production, that increased by a factor of 2.7 in 1979 compared to 1938, plant output rose during the same period by a factor of 2.2, while animal output went up by a factor of 3.7. These increases occurred in a context in which investments for modernization and expansion of zootechnical production facilities and provision of breeding stock totalled more than 75 billion lei during the 1965-1980 period, including more than 37 billion lei under the recently concluded five-year plan.

In this context, many changes have occurred in the Romanian zootechnical sector. They include: rise in the proportion of zootechnical production in the value of total overall agricultural production, from 30.3% in 1938 to 44%, as we indicated above; concentration and specialization of production

in large state and cooperative agricultural units; expansion and overall use of structural and technical approaches that involve an increasingly greater mechanization and automation, with the goal to lend a marked industrial character to zootechnical activity; countrywide use of a system of improvement, reproduction, and delivery to production units of high-breed stock or nursery stock; structuring of and supply of equipment to the network for animal health care; assistance to animal husbandry in the private farm sector; streamlining, adaptation and greater and greater involvement of specialized research and educational units in implementation of the programs for zootechnical progress.

Table 1. Livestock

		Tabelul nr. 1					
		Effective de animale					
		1) — mii capete —					
		2) Ani					
		1958	1965	1970	1975	1980	1981
3)	Bovine	3 453	4 953	5 210	6 126	6 630	6 940
4)	Ovine si caprine	10 452	13 932	14 355	14 310	16 500	17 500
5)	Porcine	2 781	5 365	6 359	8 813	12 500	13 000
6)	Păsări ouătoare	20 500	26 500	38 130	40 116	56 520	60 000

Key:

- | | |
|------------------|---------------------|
| 1. Thousand head | 4. Sheep and goats |
| 2. Years | 5. Hogs |
| 3. Cattle | 6. Egg-laying fowls |

The implementation of the programs for zootechnical progress materialized in the larger and better livestock (Table 1), in the greater input of this sector into the formation of the state fund of farm foodstuffs needed for popular consumption and better provision of industry with raw materials. The year 1979, for instance, saw a per capita output of 114 kg of live meat, 268 liters of total milk (ewe's milk recalculated at 3.5% fat), 320 eggs, 1.8 kg wool and so forth.

When highlighting the successes obtained in zootechnical progress, emphasis must also be placed on the fact that the productions were not up to the level of the tasks. The failure to obtain the head of animals and the productions expected primarily resulted from the lower birth rate for cattle and sheep, the high rate of mortality and necessary slaughtering, and obtaining of median milk and wool outputs below the possible level. However, the basic cause of nonachievement of the planned objectives, both for livestock and the median and total animal outputs, actually the cause that mostly generated the shortcomings pointed out above involves the deficiencies in provision of the fodder

base -- both in terms of quality and quantity. Precisely in this regard Nicolae Ceausescu indicated that "ensuring of the fodder at this point is the keystone of zootechny. In light of the specific conditions available, we must take prompt steps to boost output and most economically use volume feed, for the purpose of maximizing its input into animal feed."

Prospects for Better Animal Feed

Proceeding from the major objectives of agriculture, from zootechnical tasks under the 1981-1985 Five-Year Plan -- a rapid growth rate that can make it possible for animal production in 1985 to account for 45-46% of all agricultural production -- it is evident that we need a genuine revolution in provision of fodder, the keystone of zootechnical activity. The fodder productions planned -- of 46,950 mil. n.u., including 16,550 mil. concentrated n.u. in 1981 and 54,100 mil. n.u. including 20,100 mil. concentrated n.u. in 1985 (the proportion of volume fodder in the total amounts of feed for the main species of cattle and sheep being 75-90%) -- must far better than hitherto meet the steadily growing needs of livestock feeding for each agricultural unit. What measures and factors must operate so that we may obtain the planned animal fodder productions?

In light of the realities in our agriculture and also of the provisions in the Program for boosting the fodder production during the 1981-1985 period, we may assess that, by and large, the efforts of the factors involved, at one or another level, in provision of volume fodder for cattle and sheep must be mainly focused on expanding the raising of the animals concerned in close relation to the fodder resources existing in each locality. In this context, great attention must be paid to increasing the herds of cattle and sheep in the hilly and mountainous areas. In these areas, though they contain the vastest natural meadows (concentrated are about 80% of meadows, that is more than 3.5 mil. ha), in the context of creation of big zootechnical complexes, especially in the plain areas, of use of the known system of feeding animals, noticeable is the lowest concentration of animals per hectare. Consequently, for a major part of the country's livestock and for most months of the year, we do not take the animals to the feed, as, moreover, the procedure prevailed from ancient times, but the feed is brought to the animals.

Of course, this system is objectively necessary to a certain extent (during wintertime, under special conditions, and so on) but aside from this it results in irrational transportation and energy consumption, excessive investments, and a considerable additional consumption of materialized labor which a high-yield, rational, and efficient agriculture, as Romanian agriculture plans to become -- and especially in the context of the current restrictions in terms of energy and materials -- cannot afford. Expansion of animal husbandry in hilly and mountainous areas is an important condition for the localities' meeting, from their own production, their needs in terms of local consumption of livestock products and also their obligations to the state central fund -- a paramount task in the overall socioeconomic development of this country. Moreover, this endeavor is all the more necessary because, in accordance with provisions, and in continuation the chief source of production of volume fodder will be natural pastures -- more than 1.4 million ha

and natural grazeland -- almost 3 million ha in 1981.

In light of the directives of the party leadership, in conformance with the country's laws, we must considerably boost and effectively promote animal husbandry, livestock production on private farms. In accordance with the law, all the citizens, who, in one form or another, hold farmland, are required to raise animals for their own use and for contracting or marketing with the state. This stipulation, with significant beneficial effects for the agricultural market and for the peasantry's earnings, evidently poses problems in terms of ensuring the fodder base, the major difficulty in increasing the animal herds and livestock productions.

There are considerable reserves that can ensure the necessary fodder base. Moreover, many projects have been undertaken in this area. In our view, an addition to this may include the one according to which cooperativized farmers -- and other animal raisers -- whenever possible, would be assigned plots from the respective areas of agricultural production cooperatives, in order to grow fodder, for their own use, under the double crop system after harvest of the basic crop. In this context, we mainly have in mind the fact that out of the almost 3 million ha under wheat and barley, and which are fit for double crops, this system is planned -- and achieved -- on almost 1.6 million ha with various successive crops and in the first place with fodder crops -- with the greatest part of the difference of agricultural land mentioned occurring in agricultural production cooperatives.

Hence, even a first and overall estimation indicates the prospect for additionally obtaining fodder under the double crop system on large areas, without affecting by any means the planned tasks, but even the opposite. Ensuring the fodder base for animal raising on private farms also necessitates the provision through trade units of implements, machines and mechanical tools for fodder harvesting from smaller or special areas -- sloping lands, and so on; the growers must find these products on the market and be able to acquire them on easy terms, with the use for fodder production of any agricultural area being ensured.

The development of the fodder base must be conceived in the context of radical improvement of animal feed -- ensuring judicious and balanced fodder rations, in accordance with the specific physiological needs of every animal species and category. The experience of some agricultural units in Constanta, Olt and Sibiu counties indicates that the steps involved do not entail greater relative consumption of fodder but, conversely -- because the animals receive the feed which they actually need, in optimal doses and at the right time -- it entails a lower relative consumption -- and, in exchange it boosts the productions planned, profitability and efficiency.

An important factor in ensuring the fodder base, in raising the per hectare production of green fodder, involves the mobilization of workers in zooveterinary research and education units, of all experts for the more rapid overall use of scientific advances, for the development of new varieties of fodder crops, improvement of techniques, and so forth. It is true that

In light of the major tasks facing the zootechnical sector, the size of the personnel with college degrees and medium-grade training active in this sector may seem inadequate: from all cadres with college training in agriculture,

Table 2. By-Products in Industry, Agriculture and Zootechnical Sector Fit for Use in Animal Feed*

Tabelul nr. 2

Produse secundare din industrie, agricultură și zootehnie potrivite de folosit în furajarea animalelor *)

1) Culturi vegetale	8)	— Tulpini porumb	10—15 mil. t
	10)	— Căpețeni	1,5—2,5 mil. t
	11)	— Pene cereale	6—8 mil. t
	12)	— Picavă	1,5—2 mil. t
Surse furajere din agricultură		— Capitule, tulpini de floarea-soarelui	400 000—500 000 t
	3) Culturi industriale	— Colete, frunze sfeclă	1 000 000 t
	13)	— Vreji de cartofi	1 000 000 t
	14)	— Vreji de soia	200 000 t
	15)	— Resturi legume	1 000 000 t
4) Culturi hortivivicole	16)	— Vreji de legumi- noase (mazăre, fa- sole)	500 000 t
	17)	— Tescovină	1 000 000 t
	18)	— Borhot fructe	1 000 000 t
	19)	— Drojdie vin	100 000 t
	20)	— Borhot din sfeclă	1 300 000 t
	21)	— Borhot din porumb	200 000 t
	22)	— Borhot din malț	200 000 t
	23)	— Borhot din cartof	200 000 t
	24)	— Reziduuri conserve	300 000 t
	25)	— Reziduuri abator:	
Surse furajere din industrie și zooteh- nie	26)	— sînge	50 000 t
	27)	— păr și pene, capite	80 000 t
	28)	— conținut stomacul și ruminal	100 000 t
	29)	— Deșeurii păsări:	
	30)	— asternut	300 000 t
	31)	— baterii	500 000 t
	32)	— Deșeurii taurine (complexe)	1 000 000 t
	33)	— Deșeurii porcine (complexe)	1 500 000 t
	34)	— Deșeurii ovine (complexe)	200 000 t
	35)		

*) *) Date estimative I.C.N.A. 1980-1981

Key:

- | | |
|------------------------------------|------------------------------------|
| 1. Plant crops | 19. Fruit draff |
| 2. Fodder sources in agriculture | 20. Wine residue |
| 3. Industrial crops | 21. Beet pulp |
| 4. Hortivicultural crops | 22. Corn mash |
| 5. Fodder sources in food industry | 23. Malt mash |
| 6. Zootechnical fodder sources | 24. Potato mash |
| 7. * Estimative data ICNA Saftica | 25. Canning residue |
| 8. Corn stalks | 26. Slaughterhouse residues |
| 9. Corncobs | 27. Blood |
| 10. Grain straw | 28. Hair and feathers, hooves |
| 11. Chaff | 29. Stomachal and ruminal contents |
| 12. Sunflower capitula and stems | 30. Poultry wastes |
| 13. Beet necks and leaves | 31. Litter |
| 14. Potato stalks | 32. Batteries |
| 15. Soybean stalks | 33. (Complex) cattle wastes |
| 16. Vegetable wastes | 34. (Complex) hog wastes |
| 17. Legume stems (peas, beans) | 35. (Complex) sheep wastes |
| 18. Marc | |

(levels for 1979) only a little more than one-fourth are zootechnical engineers and veterinary surgeons, and a similar proportion exists for livestock experts and veterinaries in the total of medium-grade personnel. The direct and immediate involvement of all these experts in resolving problems pertaining to the specific improvement of breeds and animal productivity, of varieties of fodder crops and the nutritional yield which is obtained from existing crops is a feasible project, a project designed to amplify the results.

Here is another aspect. In ensuring the necessary amount of fodder in the zootechnical sector, to the average productions planned to be obtained from natural meadows (in 1981 about 3 tons hay per hectare and 14 tons of green fodder per hectare) and from other areas of more than 830,000 ha, under fodder crops in their own field (28 tons green fodder per hectare from legumes and perennial Gramineae, 42 tons root crops per hectare, 50 tons per hectare for "aristized" ryegrass, followed by corn (silo) and respectively 8-10 tons per hectare for green fodder in successive crops), one may add the significant amounts of so-called by-products from industry, agriculture and the zootechnical sector, products that are fit for animal feed (see Table 2). For many units in agriculture and the food industry, such products are, unfortunately, still considered useless when, actually, with a little thriftiness but with a greater degree of professionalism and civic awareness, they can -- and, moreover, must, as is planned -- be given good uses. As a matter of fact, in this way we ensure not only additional resources for animal feed, but also eliminate sources of environmental pollution, uneconomical transportation, and so forth.

The implementation of the programs mentioned above will create essential conditions for meeting the fodder needs of the zootechnical sector. Undoubtedly, this process involves boosting the production of green fodder per hectare, an optimal nutritional structure of fodder crops, of animal feed, problems which we will discuss in a future article.

MORE ECONOMICAL PRODUCTION OF ELECTRICITY, HEAT SOUGHT

Bucharest REVISTA ECONOMICA in Romanian No 21, 22 May 81 pp 9-10

[Article by Ioan Munteanu]

[Text] The sensible utilization and highly responsible management of energy are very important factors in ensuring the conditions required for the socio-economic progress of this country, for improving the conditions of well-being and civilization of working people. Highly significant in this context is the appreciable increase, on a par with the best achievements on a world scale, in the useful value obtained per unit of energy spent, namely minimizing energy consumption per unit of national income produced.

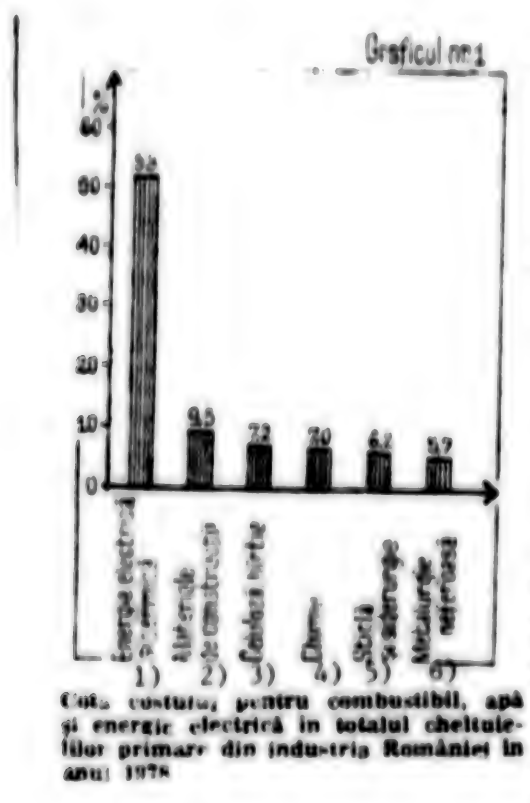
At this time, the consumption of primary energy for the production of a unit of net income of 1000 lei is showing in our country a decreasing trend but the level achieved still is below that attained in advanced industrial lands. In our judgement, it is perfectly feasible to minimize energy consumption without hampering economic development, if we proceed from the following truth: the relation between the energy lost and the one used is different in modern processes versus less modern ones. On an overall scale, in our country at the beginning of the prior five-year plan losses accounted for more than 61% of the energy used, and the input of the activity for production of electric energy was 20.53%* for total loss. A close examination indicates that a part of the loss can be returned to the consumption flow, causing the value of useful energy to go up.

Hence, let us survey the role of the energy elements (fuel, electric energy and water) in primary costs in a few branches which are known as energy-intensive branches. We will note (Graph 1) that the industry of electric and thermal power is prominent in this regard, which means that the energy elements here have an input of 53% of all primary costs. These significant inputs of energy elements in the costs of branches primarily stem from the great loss of primary energy during the production of thermoelectric energy (about 60%). The situation is caused by the fact that from the total of electric energy produced out of thermal sources, 78% is obtained by a technique --

* I. Iancu: Energy Consumption and Structure of Production, Ed. Academiei Bucharest, 1979, p 61.

in condensation -- which can achieve a maximum yield of 35%. Moreover, it was found that electric energy has a significant input into the total consumption of primary energy in this country -- 23% in 1977 -- and the trend involves a constant rise. Furthermore, this trend is noticeable in many countries and is chiefly due to greater electrification of production processes.

Graph 1



Level of cost for fuel, water and electric energy in total primary costs in the Romanian industry in 1978

Key:

1. Electric and thermal energy
2. Construction materials
3. Pulp, paper
4. Chemical industry
5. Glass and metallurgical industry
6. Nonferrous metallurgical industry

These data show that the energy consumption-national income ratio can further be influenced by working, on the one hand, for returning the energy loss to the economic circuit and, on the other hand, for maximizing the national income. In the branch of electric energy this involves finding adequate approaches to reducing the main element of production costs in obtaining energy -- the costs pertaining to fuel, electric energy and water -- in thermoelectric power plants. How can this be done? The answer to this question is: chiefly by altering the process. It is well known that radical approaches to minimizing materials consumption rates can only be found by consistently promoting technical progress, by using procedures which focus on modernization and modification of technology, and these generally valid methods are applicable in the branch of electric energy as well.

Another sector of energy consumption involves "household consumption and other consumption factors," where energy is used with an average yield of about 40% and the volume of this consumption in the total energy used in this country is almost 12%. Moreover, this sector has an input of 12.48% in Romania's total energy loss. Also worth noting is the fact that the main energy carriers are hydrocarbons -- 70%, with solid fuels having an input of 17.8% and electric energy, more than 12%; the main purpose of fuel consumption is heating dwelling quarters and socioadministrative areas.

Moreover, we would like to note that the entire energy consumption for the population has a fluctuating nature and that fuel consumption has a seasonal character and is 5-7 times greater in wintertime, versus the summer. This situation requires the existence of important stocks of fuel or, in the case of natural gas, overequipment of the transmission and distribution networks and of the extraction facilities. Furthermore, recently, there has been the need for also equipping some compressor stations for pumping gas over great distances or creating major gas storage centers in the area of consumption centers -- all this necessitating great investment efforts, and, in operation, significant energy consumption levels for the operation of these technical complexes.

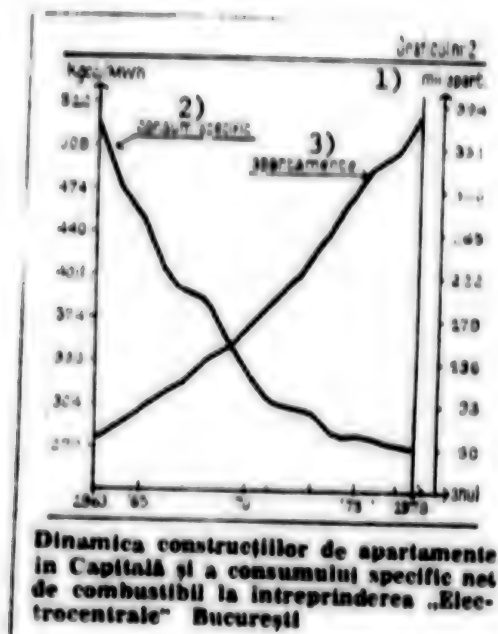
All these facts permit us to note that saving energy in this sector -- specifically by increasing the yield in the utilization concerned -- involves a significance and complexity that are greater than those which result from the simple assessment of the level of total primary energy consumption. Here are a few measures that can be instrumental in saving energy in this sector of consumption:

- a. Continuing building dwellings in several-storied apartment houses, which have a heat consumption of the order of 0.65% versus individual buildings;
- b. Limiting vitreous areas and improving insulation of new structures;
- c. Setting tightness standards and tests in building inspection.

These measures will have an impact on slowing down the rise in energy consumption in relation to ampler construction of dwellings and sociocultural facilities. But the measure which will help to minimize the current loss in this

sector of energy consumption is expanding the heating system in thermoelectric power plants.

Graph 2



Dynamics in the construction of apartment houses in Bucharest and of net relative fuel consumption at the Bucharest "Electrocentrale" Enterprise

Key:

1. Thousand apartments
2. Relative consumption
3. Apartments

This year the experience gained in Bucharest is fully convincing. Surveying the evolution of the combined production of electric energy and thermal energy in major thermoelectric power plants over a long period (15 years) one can note a spectacular decline in relative fuel consumption, to more than half versus the earlier system, in the context of rise in the number of apartments connected to the thermification system (Graph 2).

The net relative fuel consumption in Bucharest steam power plants is by about 60 kgcc/MWh lower than the one obtained in the most economical condensation thermoelectric power plant in Romania, of 800 MW at Ludus. This difference between relative consumption levels in the two energy-producing enterprises

results, in the context of the same amount of electric energy produced in 1 year, in the Bucharest plant using 300,000 tons (in equivalent pit coal) less than the Ludus plant. The fuel saved in this manner represents 1.3% of the fuel consumption of the electric energy branch or the annual consumption of fuel for the production of thermal energy needed for industry and household sector in a town of more than 150,000 inhabitants with a developed processing industry.

The critical examination of the current prevailing process for the production of thermoelectric energy, of the technology for the production of thermal energy in major urban centers, of transmission of electric energy can further provide valuable elements for using efficient approaches to saving energy, to developing the process of economic growth in the context of a relatively lower energy consumption rate.

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CSO: 2700

ROMANIA

BRIEFS

BISTRA AREA WORKER MUTUAL ASSISTANCE-- In Bistra, the ancient settlement in the heart of the Apuseni Mountains, an investment worksite has been inaugurated for the purpose of utilizing the copper of Rosia Poieni. The new worksite is one of the five "hot spots" of the worker mutual assistance campaigns in which, at the appeal of the party, thousands of workers have united their efforts for the ascending development of the power base and the raw material base of the country. This year almost 1,000 auto drivers, excavator operators, bulldozer operators, mechanics etc. have come to Bistra from Constanta, Cluj and Alba districts. By 31 October of this year they will excavate two million cubic meters of material in order to hasten the time in which the Romanian national economy will benefit from an important source of raw material--copper from Rosia Poieni. [Text]
[Bucharest MUNCA in Romanian 5 Jun 81 p 1]

CSO: 2700

LACK OF FOREIGN EXCHANGE LOWERS OIL IMPORTS

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 4 Jun 81 p 1

[Text] Shortages of petroleum derivatives, said Ivo Sindija, secretary of the General Association of the Yugoslav Petroleum Industry, at today's press conference, were avoided only thanks to the fact that 15-16 percent more petroleum has so far been imported from the bilateral payment area than envisaged for that period. The shortages would have especially hurt spring farming operations and plans dependent on them. About 200,000 tons less petroleum than was planned has so far been imported from the convertible market because of the shortage of foreign exchange. This does not mean, of course, that there have not been occasional brief shortages of derivatives. Some industrial plants shut down back in April because of the shortage of residual fuel oil, whose imports were even budgeted below needs.

Conclusions concerning the future situation on the domestic market can be drawn from the supply of petroleum and derivatives up to now. As emphasized by Ivo Sindija, there should be more derivatives in future, but because of oversights in the first half of the year supply will still be on the edge of a shortage. It is true that among other things the long-expected self-management accord on uniform supply of derivatives to all consumer areas under equal conditions has been signed for this year. This accord envisages exactly how much petroleum is to be refined and derivatives produced in each refinery, how much each refinery is to deliver to each distributor, and from that one also knows what quantity of derivatives will go to each republic and province. This accord is also supposed to be a guarantee that sociopolitical communities will receive the amount of petroleum derivatives envisaged by the energy budget for this year.

An accord has also been signed on distribution of imported petroleum among refineries, so that it is known how much liquid fuel each will receive from each country. However, the question is whether Yugoslavia will be able to get the petroleum from the convertible area whose purchase was postponed. As Sindija put it, there is a serious fear--if the republics and provinces do not move more quickly to discharge their foreign exchange obligations to the petroleum industry--that there will be a shortage in the third quarter, that is, at the height of summer and autumn farming operations.

The lag in furnishing foreign exchange did not occur, Ivo Sindija, solely because of an overall shortage in the country, but also because of differing interpretations of the Agreement on the Bases of the Yugoslav Social Plan for the Period 1981-1985 on mutual adjustment and guidance of the flows of social reproduction, where it provides how funds will be furnished to import liquid fuel. In any case, the budgets of the republics and provinces have also made provision for foreign exchange to purchase petroleum, but most are still procrastinating. It has gone so far, for instance, that Croatia has spent on petroleum a large portion of the foreign exchange intended for imports of other products, while the other republics and provinces have furnished considerably less than what was needed up to this point.

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YUGOSLAVIA

AUTOMOBILE PRODUCTION INCREASE PLANNED

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 29 May 81 p 11

[Text] The six automobile factories in Yugoslavia are planning to produce about 340,000 passenger cars this year, which would be an increase of about 45,000 over last year's output.

Crvena Zastava will have the largest output at 240,000, followed by IMV in Novo Mesto at 60,000, TAS of Sarajevo at 20,000, Simos in Kopar at 10,000, while the youngest Yugoslav producers, Ida in Kikinda and Upim in Pristina, will produce 4,000 and 2,000 cars, respectively.

It is estimated, however, that the Yugoslav market will not be able to absorb the entire output of domestic car factories, but somewhat less than 300,000. Our two largest manufacturers, then, Crvena Zastava Plants and IMV, have made plans for sales outside Yugoslavia this year: 50,000 by Zastava and 20,000 passenger cars by IMV. Should they succeed in that, that will be a record annual export of vehicles from Yugoslavia.

At the same time the domestic manufacturers are planning to produce 12,000 delivery trucks and 26,000 light, medium-sized and heavy trucks this year.

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KOSOVO TRANSPORTATION PLANS TO 1985

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 12 Jan 81 p 6

[Article by M. Delibasic]

[Excerpt] Renewal of Track and Cars

It will be particularly important in carrying out the development policy that has been set forth in this sector to implement a program on the economic feasibility of division of labor among the branches of transportation, especially between highway and rail transportation. In order to meet the needs of users of transportation services of all types, whose volume is expected to increase at an annual rate of 7.1 percent, the quality and efficiency of the transportation system will be steadily improved in the coming period through modernization of routes and purchase of up-to-date transportation equipment and other equipment.

This especially applies to rail transportation, whose condition has not undergone essential change over the last 30 years. About 65 percent of rolling stock and safety-signal equipment on the Kosovo railroad are so old that they should have been withdrawn from service long ago, so that development of rail transportation should be given a full reaffirmation over the next 5 years.

Plans, then, call for rail transportation to grow at an annual rate of 3.4 percent: passenger traffic at 2 percent and freight traffic at 4 percent. Improvement of rail transportation necessitates immediate reconstruction and modernization of track as well as greater traffic capacity and safety. In the current planning period, then, investments of 2.25 billion dinars are foreseen to modernize railroad transportation in the province. Reconstruction of the rail junction in Kosovo Polje will alone receive an investment of 480 million dinars, and electrification of the Lesak--Djeneral Jankovic line, which carries the heaviest traffic, 290 million dinars. Modernization of these rail facilities also necessitates the purchase of up-to-date rolling stock, in which 640 million dinars will be invested by 1985.

More Uniform Development

In highway transportation the volume of services is expected to grow at an average annual rate of 5 percent: 7.1 percent for passenger traffic and 6 percent

for freight traffic. These targets require expansion and modernization of the road network and transportation equipment so that Kosovo becomes an effective part of Yugoslav and international transportation. As roads and transportation equipment undergo modernization and reconstruction over the coming period, it will be indispensable to also intensify the construction of gasoline stations and other facilities both on international routes and also in urban and suburban centers. At the same time a faster progress of air transportation is expected in order to meet the growing needs of the economy and the public. Of course, the development of air transportation should be adjusted to development of other branches of this sector and to tourist activity, which is especially important to the inflow of foreign exchange. The annual growth rate of air traffic is supposed to be 9 percent over the period 1981-1985.

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CSO: 2800/272

SARAJEVO-US FIRMS COOPERATE ON ENVIRONMENTAL PROJECT

Sarajevo OSLOBODJENJE in Serbo-Croatia 30 May 81 p 6

[Text] Three scientific research organizations of Sarajevo, in collaboration with American specialists, are preparing an important scientific research project. We are referring to the "Study of Pollution and Management of the Environment in the Urban Area of Sarajevo." The project is being conducted by the Institute for Hygiene, Environmental Protection and Radiological Protection of the UMC [(?) United Medical Center], which is serving as the coordinator, the Bureau for Process Engineering and Protection of Air Purity of the School of Mechanical Engineering and the Bureau for Hydraulic Engineering of the School of Civil Engineering in Sarajevo. The foreign collaborator on the project is the American Agency for Environmental Protection of the United States (EPPA).

There are three principal goals of the project, we learned at the Institute for Environmental Hygiene and Protection. The first is monitoring the effects of improvement of the ecological conditions on the state of health of the population in the capital of Bosnia-Herzegovina. One of the goals is the intention to analyze and monitor causes and sources of pollution, its spread and air quality so as to detect changes in quality which will occur when reconstruction of the municipal-service infrastructure takes place. Finally, it is the aim of the project to ascertain an increase in the assimilating capacity or improvement of the water quality of the upper reaches of the Miljacka and Bosna rivers.

The scientific reason for the project is to study the effects on health and environmental factors which will be improved as part of the Environmental Protection Project. EPPA will furnish 4,211,631 dinars for the three domestic participants in the research over the first 2 years. It is assumed that the work on the research project will last about 5 years. Mr Gerald Raus, a representative of the American research agency, is expected to arrive in early June for an agreement on the technical details of the project and also to examine financing.

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CSO: 2800/269

EXPORT OF LIVESTOCK AND LIVESTOCK PRODUCTS IN 1981

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 12 Jun 81 p 3

[Article by Miodrag Filipovic: "Waiting for a Resolution"]

[Text] There were great difficulties in the export of livestock and livestock products in the first 4 months of this year, so that even now it is certain that this year's planning target of a total value of \$412 million (\$357 million of which was to have been realized on the convertible market) will not be attained. In the January-April period there was an appreciable drop in the volume of exports of livestock and livestock products, accompanied by a very unfavorable pattern in which products at a low level of manufacture, products of secondary importance to animal husbandry, were dominant.

Thus for the sake of comparison 22,122 tons of baby beef were exported in the first 4 months of 1980, and this year only 3,650 tons crossed the border in that same period of time. Total exports of baby beef last year brought in \$129,894,000, and in the first 4 months proceeds have amounted to \$91,323,000. This includes a fair-sized increase in sales of this product in the bilateral payment area, from \$9,729,000 to \$14,671,000.

According to Milan Njegomir, director of the Fund for Promotion of the Production and Sale of Livestock and Livestock Products (STOFO), the fund's executive committee has on several occasions pointed out that there would be difficulties in selling goods abroad. At the same time, several measures were proposed to at least mitigate if not eliminate these disproportions. Most important among them were certainly timely adoption of an export program and also adoption of the specific terms and conditions under which these goods would be sold on the foreign market. Nevertheless, these actions are even now behind schedule.

Barriers to the Sale of Meat

But there are several problems facing the export of livestock and livestock products. While the price of meat has been rising steadily on the domestic market, for example, the prices of this product have not been rising at the same rate on the foreign market. The stricter measures for agricultural protectionism of the members of the European Economic Community, which have taken the concrete form of higher variable levies (the EEC, for example, raised the variable

levy for Yugoslavia 13.5 percent over 1980), also represent an ever greater barrier. Likewise, there has been a narrowing of free markets on which it is possible to sell these commodities without special tax burden one particular case being the entry of Greece, one of our traditional large customers, into the EEC.

Aside from the measures of protectionist policy, the members of the EEC are also emerging as important competitors in the developing countries, since they are offering high incentives for the export of livestock and livestock products on those markets. For example, the EEC offers an incentive of \$870 per ton on the export of baby beef on the hoof, and this incentive goes to \$2,100 per ton on the meat from these animals.

High shipping costs are making it difficult to adopt an orientation toward the capture of new markets, primarily the developing countries. To be specific, shipping costs in these transactions constitutes a third of the price of the product (between 27 and 40 percent of the value of the product), so that even though several of the 10 developing countries are already interested in this kind of cooperation, and the meat is being graded for them, sales on this market are still inadequate. Regardless of the contracts concluded to export several thousand tons of this commodity to the developing countries, then, we cannot expect that this will make up for the market lost in Greece, to which 50,000 tons of meat were exported in an average year for \$100 million.

Dilemmas Concerning the Export of Baby Beef on the Hoof

The actual rate of exports of baby beef on the hoof is important in examining the results that will be attained by the end of the year. Plans for this year call for delivery of 96,000 head of young cattle worth \$53 million, but so far the foreign customers have taken only 22,000 animals and paid \$11 million. The limited opportunities for export obviously were not taken seriously, since there were also certain delays in making shipments. The export of young cattle also signifies departure of certain raw materials for which there is a high demand on the domestic market--leather, for example. However, Njegomir said, we should not overlook that the foreign sale of cattle on the hoof is worthwhile, since the price is high enough to cover the costs of obtaining raw hides.

The average annual export of 50,000 head of young cattle means a loss of 2,000 tons of raw hides as well. But the price of young beef cattle on the EEC market has reached \$1,800 a ton, and the price of imported leather is between \$600 and \$700 per ton. However, even though the EEC has approved the import of 50,000 head of young cattle from Yugoslavia and even though producers are interested in exporting as many as 100,000, the grounds on which the export permits are being denied, even for the amount the EEC is willing to take, is that the valuable raw materials cannot be exported along with the meat. It is interesting, then, that in recent years the amounts of young cattle approved for export have steadily grown, so that last year permits were issued to export 77,000 head of young beef cattle.

Slowness in issuing export permits is affecting conclusion of contracts for sales to the developing countries, since in annual contracts a certain number of

head of live young cattle is stipulated as a condition for the purchase of meat and other products.

Protection of the Slaughtering of Calves Instead of Holding Back Permits

Another important thing that could happen is for the EEC market to transfer its import permits intended for Yugoslavia to other countries which are able to export on a continuous basis. For that and other reasons STOF0 wants the export of young beef cattle on the hoof to be removed from the list of products requiring permits and put on the basis of an approved program. On the basis of that proposal associated labor would itself adjust the pace of exports, and it would be primarily concerned to export more live young cattle when there was less interest in meat, and vice versa.

At the same time, in ordinary situations the export of these products would have a uniform pace and would not go in spurts as has been the case up to now. The people at STOF0 feel that exporting of the planned and approved numbers of live young cattle would not threaten the supply of the packinghouses, nor the supply of the domestic market. After all, with respect to processing plants, efforts should primarily be aimed at protecting the young animals, that is, at the slaughtering of calves, which would make it possible for a portion of the production of young beef cattle to be earmarked for export on the hoof from the outset. Then the farm structures would be emptied more rapidly for the next batch in production.

As for other products, in the present situation the positions of export of canned pork products have also been seriously shaken. That is, the export trend is being maintained at the level judged to be necessary to preserve positions, above all on the U.S. market. For example, these exports increased from 6,000 tons in 1969 to 19,800 tons in 1978; the share in total supply of this product to the U.S. market increased from 5.3 percent to 15.5 percent over the same period.

However, last year only 8,740 tons were sold, the share was 9.2 percent, so that it is obvious that business is being lost on this export market. Among the steps being taken to halt these adverse developments, we should emphasize attempts to sell canned pork products to the Soviet Union, which mitigates to some extent this unfavorable balance sheet.

There are also adverse trends in the export of lamb to the EEC market. Because of the system of issuing import permits--which are granted by quarters--licenses are issued only right before the peak season, that is, in the latter half of April, so that Yugoslav organizations have little time to export the planned amounts of this meat. Exports of lamb, referred to as spring lamb, will thus drop off this year about 26 percent from 1980. Whereas last year 3,000 tons of lamb were exported, so far only 2,000 tons have been sold abroad, and it is unrealistic to expect any appreciable increase during the remainder of the year.

These trends in the export of livestock and livestock products are certainly a signal for broader action. Members of STOF0, though they are organized in their

efforts on foreign markets, have largely ended up isolated in their efforts to carry out this export program. At the same time the decline of exports is having far-reaching consequences on production in animal husbandry, since it has an appreciable effect on the motivation of producers to undertake the next cycle. Unless these adverse trends are averted in good time, our country, a traditional exporter of meat, could become an importer.

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